APR 30 661

PRICE 15 CENTS.

APRIL 27, 1889.

THE AMERICAN ARCHITECT AND BUILDING NEWS

VOL. XXV. REGULAR EDITION NO. 696.

ARCHITECTURE

ENGINEERING

DECORATION

CONSTRUCTION

TICKNOR & COMPANY

BOSTON MASS.

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(Gelatine Print issued only with Imperial Edition.)
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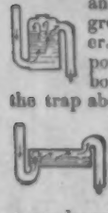
House at Boston, Mass.
Grace Church Cathedral and Guild-Hall, Topeka, Kan.
Views in Verona, Italy.
House at Newton, Mass.

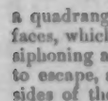
REVIEW OF THE PRINCIPLES OF SANITARY PLUMBING AS NOW ACCEPTED BY ALL LEADING SANITARIANS.

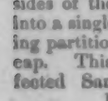
THE main object to be attained is the complete removal of waste matters from the premises the instant they are generated. This can only be accomplished by observing the following rules:—(1.) Avoid all cesspools. (2.) Make all waste-passages as small as possible to effect their purposes. (3.) Construct every fixture on the principle of the flush-tank. (4.) Make every trap seal-retaining and self-scouring. (5.) Make all joints tight. (6.) Select the simplest appliances and the simplest system consistent with safety. These rules are self-evident enough to be accepted as plumbing axioms, and are sufficient to produce perfect work. The "Sanitas" Appliances have been constructed with a view to their fulfilment in every respect, and an examination of the steps leading to the development of these appliances will best illustrate the principles of Sanitary Plumbing, showing the faults which should be avoided, and the objects which should be sought.

Beginning with the trap: In the first place mechanical seals have been discarded as being unreliable, unnecessary, and as obstructing the water-way. We start with the simplest form of water-seal trap, the ordinary S-trap. This

trap answers all our requirements except that it has no power to retain its seal under the variations of atmospheric pressure occuring within the waste-pipes. To remedy this deficiency the pot-trap was developed from the S-trap by simply enlarging its upcast limb, a sufficient enlargement gives it a temporary power of resistance, but creates a cesspool having no self-cleansing power and, accordingly, the trap clogs, under sinks, with grease and ultimately loses its original resisting power. To avoid this difficulty we have turned the pot-trap on its side and reduced the size of its body. This permits the air to pass through the trap above the water without driving the latter out before it, as would be the case with a perpendicular body equally reduced in diameter. To still further increase the power of resistance to siphonage the body was next bent into a quadrangle, giving several reflecting surfaces, which throw back this water under siphoning action while they allow the air to escape, and, finally, the two parallel sides of the quadrangle were merged into a single body having a reflecting partition and a large clean-out cap. This gives us the perfected Sanitas-Trap, which has proved itself to be both anti-siphonic in properly arranged plumbing-work and substantially self-cleansing either with or without venting. It is more resisting than a vented S-trap.







The Sanitas is a Scientific System of Plumbing, having Simplicity and Safety for its Basis. It is also by far the most Economical System.

SANITAS

APPLIANCES

PLUMBING

Avoid Infringements and Imitations which are described as being "as good as the 'Sanitas;'" they are not, they are very inferior as well as illegal.

Considering next the Lavatory. These should always be constructed on the principle of the flush-tank, their discharges filling the water-passages "full-bore," so as to keep them clean. The overflow and outlet passages should be combined in the form of a stand-pipe, thus doing away with the usual foul, inaccessible and badly jointed lead overflow-pipe, and the troublesome and dirty plug and chain. The stand-pipe should be operated by a simple mechanism above the slab, for convenience and cleanliness, requiring but a single movement of the hand, and all parts should be of solid and durable construction, while the stand-pipe should be easily detachable for cleansing. The Sanitas Lavatories are all constructed after this principle, and they are the first ever so constructed. The stand-pipes are made of either plated metal or of earthenware, like the fixture itself, and the whole device produces a very ornamental effect, especially when decorated in colors to correspond with the decoration of the earthenware bowl. Finally, the ideal water-closet should have the simplicity of the short-hopper, with the sanitary advantages and convenience of the improved modern closets. More than this, it should be practically noiseless, anti-siphonic, quick-acting, self-sealing, and free from spattering or waste of water. These desiderata have been attained in the Sanitas Water-Closet of which we sketch the outline in section. The supply-pipe between the cistern and the closet discharges into the latter below the level of its standing water, and being without air-pipe, stands permanently full of water, hence the action is instantaneous and the noise of flushing is deadened. This and the peculiar construction of the flushing-rim and water-supply passages cause the waste to be discharged with wonderful speed and effectiveness; and at the same time so quietly that with the cover down and the toilet-room door closed, no sound of flushing can be heard from without. The closet is highly ornamental in appearance, hence no other wood-work is required than the seat and cover, and these may be supported directly on the earthenware itself, which is constructed with this in view. The Sanitas System, taken together, is the most economical as well as the only safe system of plumbing, as avoiding the dangers and complication of special trap venting. Whether vented or not it is now admitted that safety requires a trap to be *anti-siphonic*, the vent-pipe alone not being reliable. The Sanitas Trap holds sufficient water to resist, when properly set, any *back pressure* that can occur in good plumbing with properly vented soil-pipes. ● For more detailed description and illustration of the Sanitas Appliances, see our other Advertisements and the Circulars of

THE SANITAS MANUFACTURING CO., BOSTON.

Branch Offices: 64 Gold Street, New York, N. Y. 229 Walnut Street, Cincinnati, O. 47 to 49 Dearborn Street, Chicago, Ill. 316 Chestnut Street, St. Louis, Mo. Sole Agents for California: Arnold & Co., 40 California Street, San Francisco. Sole Agent for Canada: O. Higman, 236 Sparks Street, Ottawa.

THE AMERICAN ARCHITECT AND BUILDING NEWS.

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APRIL 27, 1889.

Entered at the Post-Office at Boston as second-class matter.

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A SERIES of lectures to artisans has been given this winter at the Carpenters' Hall in London, on subjects connected with the building trades. The last of these was given by Mr. Thomas Blashill, a well-known architect, and now Superintending Architect of Metropolitan Buildings, on doors. Most of his hearers being practical mechanics, Mr. Blashill had the good sense not to try to instruct them in the rudiments of door-making, which they undoubtedly understood as well as he, but brought together and explained a great variety of ancient and foreign examples, which would not only interest a mechanic, but would be useful to him by giving him resources for use in cases where the common patterns could not be applied. For instance, an English or American carpenter would be rather perplexed at being told to hang a two-inch door in a rebate only one inch deep, but, as Mr. Blashill showed, this is not only frequently done on the Continent, but it is the common way in France to make the rebate narrower than the thickness of the door, and rebate and mould the edge of the door, so as to make a neat finish. Of course, an arrangement like this almost precludes the use of mortise locks, but mortise locks are not much in favor on the Continent. It is interesting, but not surprising, to find that the joinery of modern England and America seems to have been derived from that of Holland, which it still resembles much more than it does that of any other Continental country. Not only are the Dutch frames rebated to receive the full thickness of the door, like ours, but many Dutch doors are framed with a vertical "muntin," or stile, in the middle, which is invariably found in ordinary English or American doors, but is never seen in a French or German door, unless it has been made expressly to imitate an English door, or has the muntin marked with a centre-bead down the middle, to look like a pair of folding doors. Probably on account of the large size of panel required for economical work with only two vertical pieces in the framing, the Continental door panels are invariably raised, while those of English and American doors are almost always plain. Moreover, our doors are much thicker than those on the Continent, a large French or German door being often only an inch thick, and few being more than one-quarter or three-eighths of an inch thicker than that, while an inch and a half is a very moderate thickness for our doors, and a large door is almost always nearly or quite two inches thick. Owing to the thinness of the Continental doors, neither mortise locks nor butt hinges can be conveniently used upon them, and the latter are replaced by the hinges on the face of the door which often so strongly excite our admiration by their beautiful design and workmanship. The rim-locks, which are also used with these thin doors, are usually placed so as to come partly on the lock-rail, and the knob, in France and Germany, is commonly set three feet and nine inches above the floor, and a lever is used instead of a knob. In England, as we know, a round knob is the rule, and it is placed about three feet and three inches from the floor. With us the knobs are placed lower than in England, three feet from the finished floor to the centre of the knob being a common and generally satisfactory rule. In Holland, the door furniture is something like that in England, but the Dutch still make great use of the oval and egg-shaped knobs which our ancestors copied or imported from them, and we have of late copied again from our ancestors. Mr. Blashill said nothing about what is perhaps the most striking peculiarity of the Dutch doors, the way in which many of them are made to open in two sections, divided by a transverse joint in the middle of the height of the door. This fashion, which is still very common in Holland, is preserved in many houses about New York, and must have a curious history, which we commend to the attention of some amateur of Knickerbocker archæology. The Italian doors retain a peculiarity of which the origin is more obvious, in the shape of a grated opening, which is almost always found in the outside doors of houses, at a convenient height for inspecting a caller before opening the door to let him in. Considering the sort of callers that a man was liable to have in Rome or Florence three or four hundred years ago, it is not strange that some such facilities for reconnoitring visitors should have become fashionable. The most interesting doors of which Mr. Blashill spoke, considered artistically, were perhaps the Moorish ones. These are framed like ours, but with the panels as thick as the framing, so as to give a smooth surface, on which stamped leather is often placed, and secured by brass arabesques, nailed over the whole. What a pretty suggestion this would be for one of our modern houses, we need hardly point out, and many ways will occur to architects by which a somewhat similar treatment might be carried out in other materials.

IT is gratifying to learn that so enterprising a town as Kansas City is "waking-up to its art needs," to use the expression that we find in one of the local journals, and has founded a school of drawing, in which the architects and builders of the city appear to have interested themselves so far as to found prizes, to be awarded to the most deserving pupils. We are glad to wish the utmost success to the new school, and particularly like the idea of placing it to some extent under the care of architects, and of builders also, if, as appears to be the case, the builders of Kansas City are exceptionally interested in fine art. The same writer, however, considers that it is desirable to have more pictures immediately imported "from the East" into the town, which is not quite the same thing as having its citizens make them for themselves. It thinks that if a demand for pictures were to manifest itself, it would soon be supplied, which is unquestionably true, the "Eastern artists," or at least some of them, having facilities for supplying such a demand which would probably surprise the Kansas City journalist. Not only can the artists in question furnish modern paintings in oil, of assorted subjects, at the moderate price of one to two dollars each, but, if report does not belie them, they can fit out the future "galleries" which are to adorn the metropolis of the Mississippi Valley with choice Rembrandts, Raphaels and Titians at about the same figure. These pictures, by the way, are really painted in oil, either on canvas or a tolerably good imitation of it, by what is called the factory system, each canvas passing by turns through the hands of the "sky-man," the "tree-man," the "foreground-man," and so on, until it arrives at the end, a picture complete in everything except that which makes a picture valuable. The productions of these factories are said to be extensively sold in the West, and a worse fate could hardly befall Kansas City than to be known as a good market for them.

THE affair of the addition to the Boston State-house, which at one time seemed likely to lead to unpleasant rivalries between the architects concerned, as well as to undignified controversies in the newspapers and before the legislature, appears to have been happily settled by the appointment of a consulting architect, who, in conjunction with the architects to whom the first prize was awarded, is to prepare a modified design, which is to be carried into execution. In this way the State observes the principle so strongly insisted upon by architects, that the execution of the work should always be given to the author of the design placed first, and at the same time satisfies the popular demand that "a first-class architect," *i. e.*, one who would have nothing to do with the competition, should be concerned in the work. It will be observed that no one, so far as we know, has ever said anything against the skill or

ability of the winners of the first prize, but the fact that they were willing to compete at all on the terms offered, and still more so the fact that they should have done so after the almost unanimous withdrawal of the members of the profession in Massachusetts, appears to have created a presumption in the minds of the Massachusetts public, as, in fact, it generally does in such cases, that they must in some way be inferior to those who themselves set a higher price on their skill. Although we consider the whole scheme of placing the most costly and important part of the State-house in a separate building, at a lower level, and across a street, over and under which communication is obtained by means of tunnels and bridges, to be a most mistaken one, and the reason given for it, that it is important to preserve intact a certain dome of inch boards covered with tin, to be little short of absurd, the time has gone by for discussing that point, and we hope that the legislature will see that the disposition which its supreme wisdom has adopted is carried out as promptly and energetically, and with as complete an absence of unseemly squabbles and scandals, as possible.

SIGNOR MELANI writes to *La Construction Moderne* an extremely interesting letter about the history of the Campanile at Florence, from which it appears that our text-books on the subject ought to be immediately revised, and an immense amount of æsthetic rubbish extirpated from the sentimental literature of architecture. To sum up in a word, Signor Melani assures us, not on his own authority, but on that of persons whose conclusions cannot be disputed, that Giotto's Campanile was principally built by somebody else, and from designs which Giotto never dreamed of; while the Cathedral of Florence itself, instead of being the immortal work of Arnolfo, was the result of the successive labors of half-a-dozen architects, one, at least, of whom had quite as much to do with its design as Arnolfo. To begin with the Campanile, the records of Florence show without question that Giotto's work upon it ended when it had reached a height of about twenty feet from the ground. At this height the principal part of the spreading base only had been completed, including the hexagonal panels, which were sculptured by Giotto himself. At this point Giotto was succeeded by Andrea Pisano, an artist almost as renowned as his predecessor. Where Pisano's work ended is not quite certain, but a picture which is preserved in Florence, in the "Uffizii del Bigallo," indicates that it stopped at the height of the first large windows. This suggestion is confirmed by the fact that a writer contemporary with Giotto and his successors, speaking of the work that Pisano did on the tower, mentions that his employment was terminated on the discovery that he had made a change in the design of a sort which displeased the authorities in charge. What this change was, Pucci, the writer in question, does not explain, but Signor Melani points out that there are in the tower, at the height of the first story windows, some small pilasters placed in the line of the niches, which occur nowhere else, and are of an unpleasant effect. Whatever may have been the exact point at which Pisano was discharged, it is certain that he was succeeded by Francesco Talenti, who carried the building through to completion, and there is plenty of evidence that he treated the design of the upper part as he liked, without interference from any one. The usual romance about the construction of the Campanile relates that Giotto, before it was begun, made a model of it at a large scale in wood, on which every stone was marked and colored in imitation of the piece of marble which was to be used in that place. It is quite possible that the model was made according to the story, but it is certain that it was not followed. Not only does the internal evidence of the building, which plainly shows three styles of treatment, furnish, to an architect, convincing proof that it was not built in accordance with one design, but the familiar tradition in Florence, that it was intended to have a spire, indicates that a complete change of *motif* must have been made before the present cornice was devised. The exact character of the original design of Giotto is not described by any contemporary writer, but Signor Melani has discovered in the Uffizio dell' opera, or archives of construction, of the Cathedral of Siena, a drawing on parchment, of the fourteenth century, representing a tower, the lower portion of which is absolutely identical with that at Florence. At the line of the mosaic of little squares begins a variation between the drawing and the actual tower, which continues to the summit. In the drawing, the octagonal corner-buttresses, which, in the actual tower, are simply carried up and crowned with the same cornice as the wall between them, are formed at the upper end into pinnacles, while the whole of the upper story is made octagonal, and, rising between the buttress-pinnacles, carries a high octagonal spire, with gabled windows on the faces corresponding with the faces of the square beneath. This arrangement is familiar enough in Northern Gothic spires, but it is utterly unlike that finally adopted at Florence. Of course, there is no certainty that the Siena drawing is the work of Giotto, although Signor Melani, from the resemblance of the details shown in it to those employed by Giotto in the backgrounds of some of his pictures, believes that it is, but there seems to be a strong probability that it at least represents the Florentine campanile as it was first designed by Giotto, and that the variations of the present tower from the drawing show the design of Pisano, and, after him, of Talenti, who, it must be remembered, did not complete the tower until 1358, when Giotto had been dead twenty-one years, and his model, if it ever existed, had probably long been forgotten. Even if it had not been forgotten, moreover, it would probably have been thrown aside to make way for the devices of Talenti, who, though now almost unknown to fame, must have been a great man in his day — much too great a man, in fact, to submit tamely to carry out the conception of a dead artist of the preceding generation. Investigations into the records of the Cathedral of Florence show that the same Talenti was in 1357, while his work on the campanile was still in progress, commissioned to modify the design of the nave of the Cathedral, which was still incomplete, and in the following year he gave the designs for the decoration of the portions of the exterior of the nave wall nearest to the façade, which have since been erroneously attributed to Giotto and Arnolfo.

A GREAT many cat stories are just now circulating through the technical press. *Fire and Water* has two, illustrating the occasional connection of cats with conflagrations. According to the first, an Englishman, a few weeks ago, saw a cat on the roof of his house, and, after the British manner, thought it would be good sport for him to get a gun and shoot it. He got the gun and tried to shoot it, but the shot missed their mark, and pussy escaped to a neighboring tree. Meanwhile, the blazing wad had set the roof on fire, and the house was burned to the ground. Another lover of sport, in North Carolina, shut himself up with his cat in his store, and amused himself by throwing lighted fire-crackers at her. This diversion lasted, with great satisfaction to one of the parties, until a misdirected cracker landed in an open powder-keg, and the store, with its contents, were scattered over the surrounding country. The hilarious proprietor was blown under the counter, and was subsequently extracted from the débris, not so much injured as he deserved to be. The third story that we have to relate possesses a physiological interest. A woman in Liverpool, who had a pet cat, of which she was very fond, was seen by some neighbors to take the cat into the yard and cut off its tail by a blow from a hatchet. The neighbors, although she appeared just as kind to the cat after the amputation as before, saw fit to complain to the police, and the amateur surgeon was arrested. The defence was that the removal of the tail was necessary to save the cat's life. Every cat, the woman explained, has a worm in its tail, which occasionally takes a fancy to crawl up through the tail and back to the cat's head, where its presence causes the familiar and fatal "fits." The commencement of this pilgrimage on the part of the worm may be detected from the actions of the cat, which begins to run after its tail. In this stage of the disease, if the tail is cut off, the worm is removed with it, and the symptoms disappear, but unless this precaution is taken a fatal termination is inevitable. Although most of the lady's neighbors confirmed her theory, the judge unfeelingly replied that cruelty is not excusable because based on superstition, and fined her ten dollars and costs. With a few more judges of this sort, England would be a dangerous place to practice medicine in, for the cat-surgery has quite as much foundation as some of the methods of healing which are applied to human beings. Although the worm-theory is new to us, it is certain that cats are often troubled with a disease which shows itself by an inflammation and swelling at the end of the tail. The patient whirls round and round, endeavoring to scratch and bite its tail, and appears seriously out of health. Under these conditions, it is a matter of very general belief, if not of experience, that the removal of the inflamed tip of the tail effects a cure.

BUILDERS' HARDWARE.[1] — XXIV.

COMBINATION DIAL-LOCKS.

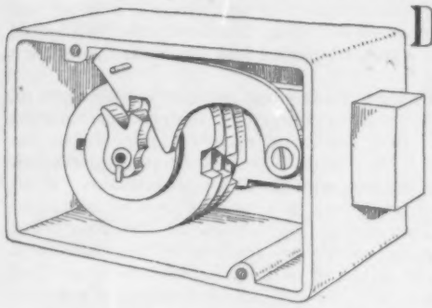


Fig. 343. Dial Lock. Damon Safe and Lock Works.

DIAL-LOCKS are used almost exclusively for safe and vault work, and so cannot be included under the general topic of Builders' Hardware. But, representing, as they do, the highest degree of perfection in the line of locks, a brief statement of the principles upon which they are constructed and worked, may not be out of place.

The external appearance of a dial-lock is familiar to every one, consisting of a rotating disk, graduated around the circumference either with letters or with numbers. To operate the lock, the knob attached to the dial-disk is turned a certain number of times to one side then to the other, etc., stopping each time on a certain number or letter, until the combination is set, when a single turn of the knob draws back the bolt. The internal arrangement consists of a series of flat, circular disks or tumblers, which rotate freely on the spindle of the dial-knob. In the edge of each tumbler is a notch, and the innermost tumbler is made with a dog which catches the tooth of a lever attached to the bolt. This inner tumbler is made fast to the spindle. On each face of each of the tumblers is a small peg, all the pegs being placed at the same distance from the centre of rotation; so that when the spindle is turned, the peg on the first tumbler strikes against the peg on the second tumbler, causing the latter to rotate, and in turn to start the third, and so on, so that with a four-tumbler lock, turning the spindle four times to the left moves the fourth tumbler to any desired number; turning next three times to the right adjusts the third tumbler, but does not disturb the adjustment of the fourth; then turning twice to the right adjusts the second, but does not disturb the other tumblers. When the slots in all the tumblers are brought to a line, a bar drops into them, permitting the bolt-lever to catch in the teeth of the first or locking-tumbler, when a single revolution will draw back the bolt. A single lock will illustrate the subject sufficiently for our purpose. Figure 343 shows the works of one form of safe-lock, used by the Damon Safe and Lock Works; and though this is a cheap lock, it embodies all the essential principles of every combination lock. This lock is susceptible of 755,000 different combinations, but some bank-locks afford as many as 134,000,000 changes.

There is absolutely no way to pick such a lock as this, except by "ringing the changes," that is to say, by making successively all the possible combinations, until the right one is found.

Combination locks cost from five dollars for the cheapest kind, to several hundred dollars for the most perfect styles of time locks.

MISCELLANEOUS LOCKS.

In addition to the regular lines of lever and cylinder locks, there are several forms which may be considered in this connection.

Tubular Locks. — Some cheap styles of lock are manufactured of such form that all the mortising can be done with an augur, being essentially the same in principle as the mortise door-bolts described in a previous chapter and illustrated by Figure 56. Figure 344 shows the construction of the "Hollenbeck Tubular lock." It is too simple and cheap to afford any very great degree of security as compared with an ordinary three-lever lock, but for some cases it would answer very well, as it saves seventy-five per cent of the labor ordinarily necessary to fit a common lock to a door. It is held firmly in place by the lugs at top and bottom, so it cannot work loose. Hollenbeck also manufactures a tubular latch on essentially the same principle. Several other firms have tubular locks listed in their catalogues, but they are too much alike and too simple to require further illustration.

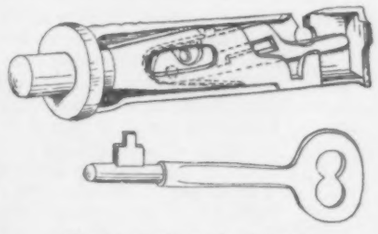


Fig. 344. Tubular Lock. Hollenbeck.

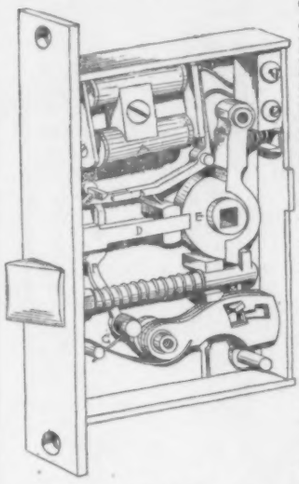


Fig. 345. Electric Lock. Thaxter.

Electric Locks. — It is often desirable to have a lock which can be operated by any one at a distance from the door. In apartment-houses, clubs, etc., it is well to fit the front-door with a lock so connected with an electric battery that when a knob is pressed in an upper story a catch in the lock is drawn by the action of an electro-magnet, permitting the lock or latch to be moved. Any form of lever-lock might be adapted to this purpose, but there are a few forms of specially designed electric locks which are more commonly used. Properly speaking these are all electric-latches, as none of them have a locking bolt. Figure 345 illustrates "Thaxter's" electric lock. The pressure of a button closes the circuit through the electro-magnets, *A*. These act on the bent lever so as to release the arm, *B*, from its catch on *F*. The spring at *C* draws back *F* and *D* from the follow, *E*. The outside knob can then be turned and the door opened. When the latch is drawn back by closing the door, it carries with it the arm *F*, which resets itself so that the bolt *D* catches in the follow and locks the door. The latch is also fitted with a set of levers, so it can be operated by a key, independently of the knob.

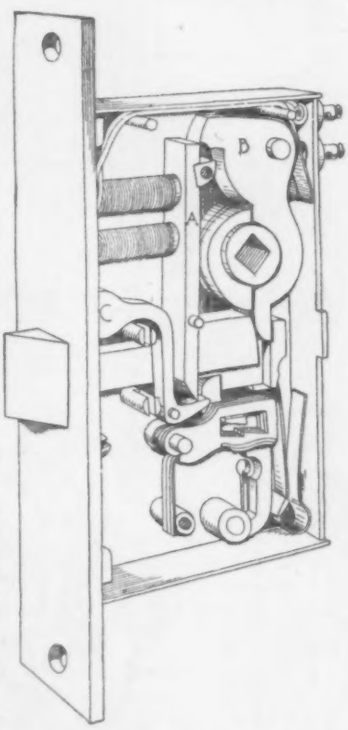


Fig. 346. Electric Lock. Fuller & Holzer.

"Fuller's" electric lock, Figure 346, is a trifle simpler. The magnets draw the armature *A* away from the cam, *B*, permitting the knob to be turned. When the door is closed the latch lifts the bent arm, *C*, and forces back the armature under *B*.

The "Thaxter" and the "Fuller" locks are the ones most commonly employed in and around Boston, though there are several other makes in the market, most of which are, however, asserted to be infringements of the patents.

Sliding-door Locks. — Figures 347 and 348 illustrate two types of sliding-door latch and lock. The locking mechanism used for this purpose is usually quite cheap in its construction, as a finely fitted lock is seldom required for sliding-doors. Indeed in many cases no lock at all is necessary. The bolt is curved and hooks down into the face-plate on the opposite door or on the jamb. The door-pull is either in the form of a hinged-lever, as in Figure 347, or a straight pull reinforced by a concealed spring, as in Figure 348. Both pulls can be pushed

[1] Continued from No. 605, page 185.

in flush with the face-plate. In some localities it is thought desirable to use knobs on the sliding-doors, one set of knobs

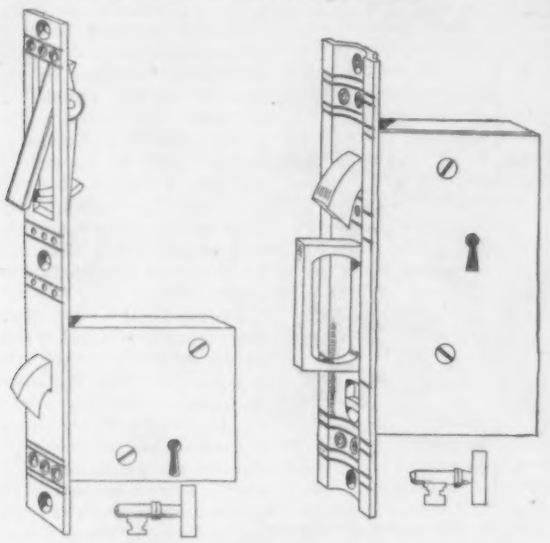


Fig. 347. Sliding-door Locks. J. B. Shannon & Sons. Fig. 348.

working the hook-latch, while the other knobs are simply dummies. In this case the key is used to lock the latch-bolt.

Drawer and Wardrobe Locks. — These are more properly

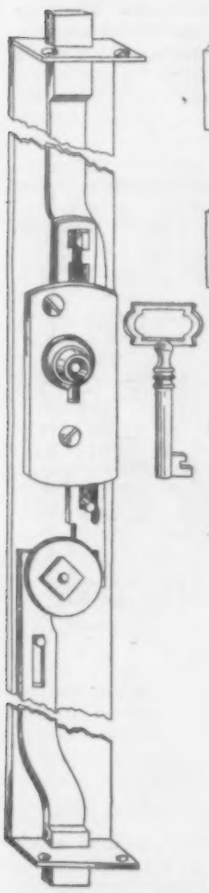


Fig. 349. Wardrobe Lock. A. G. Newman.

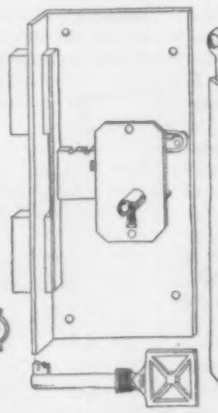


Fig. 350. Wardrobe Lock. J. B. Shannon & Sons.

Fig. 351. Post-office Lock. Corbin Cabinet Lock Co.

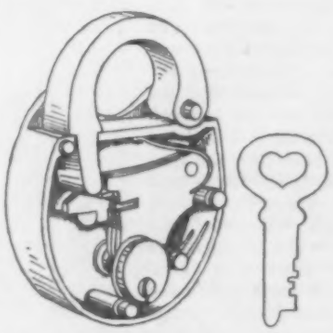


Fig. 352. Padlock. A. E. Dietz.

associated with cabinet-work than with builders' hardware, and will not be considered at any length. Drawer-locks are made in a great variety of sizes, from one to three and a half inches deep, and in all grades, from a simple bolt worked by the key, without levers of any sort, affording no real protection against intrusion, to the locks which are operated by Yale cylinders, having all the latest improvements of the Yale system, and being practically unpickable. Figures 349 and 350 illustrate two good types from the great variety of locks used for wardrobes and small closet doors. The first shoots a bolt up and down and is a fair, two-lever lock. The second shoots a double bolt horizontally. Both are gained into the inner face of the door.

The Corbin Cabinet Lock Company has recently put on the market a very ingenious change lock, intended specially for post-office boxes. It is somewhat upon the principle of the Day & Newell "Perautopic" lock previously described. Figure 351 shows the lock with the face-plate removed. Each lock can be locked by any one of a series of keys which can be extended in number almost indefinitely, all the keys being different in the arrangement and spacings of the notchings. But the bolt can be unlocked only by the key which was last used in locking it, so that the key can be changed as often as desired. In case the key is lost, an arrangement at the back of the lock permits the post-master to open the box and throw back the bolt, when a new key can be used, without in any way changing the lock, and the key which was lost would not then work the lock at all. Furthermore, the bolt is so arranged that it will turn back only sufficiently to permit the box to be opened, but not enough to allow the key to be withdrawn, unless the bolt is forced back by external pressure. The working is as follows: The upper levers are pivoted so as to permit of a rotary as well as a longitudinal motion. The second set of levers moves only laterally. The opposite edges of both sets of levers are notched, the width of the notches corresponding to the difference between the notches on the keys. Suppose the bolt to be unlocked: when the key is turned, the lower levers are first pushed to one side varying distances, corresponding to the notches of the key, and the upper levers are then drawn down and away from the post. As the key continues to revolve the levers interlock and the lower ones are forced sidewise by the springs, carrying with them the pivoted upper levers, which rotate so that the slot in each lever no longer comes opposite the post. At the same time, the bolt is shot out. It is evident that the action would be the same, no matter what key were used, only the sets of levers would not interlock in exactly the same relation. It is also evident that the only key which will rotate the upper levers so as to bring each slot opposite the post and permit the key, in turning, to draw back the bolt, is the key which last made the combination between the two sets of levers.

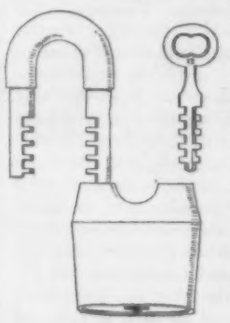


Fig. 353. Scandinavian Padlock. Russell & Erwin.

Fig. 354. Giant Padlock. Smith & Egge Mfg. Co.

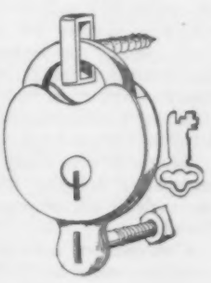


Fig. 355. Hasp Padlock. Stoddard Lock & Mfg. Co.

This lock hardly comes within the scope of builders' hardware, but it is too ingenious to pass unnoticed. The Corbin Cabinet Lock Company also makes a change lock for drawers, operating on much the same principle.

Padlocks. — The subject of padlocks is one which might be illustrated indefinitely, as there are quite as many different varieties as have been noted in regard to lever-locks, though with a few exceptions all padlocks are on essentially the same principle, consisting simply of spring-levers and a shooting-bolt, operated by a key in the same manner as an ordinary door-lock. Padlocks are now used but little about a house, as mortise or rim locks are usually more convenient, and at the same cost, are more secure. Only a few of the market forms will therefore be considered.

Figure 352 illustrates the internal arrangement of a very secure padlock manufactured by A. E. Dietz, the key, notched levers, etc., being somewhat similar to those in the Dietz

store-lock previously illustrated. Figure 353 is a form made by nearly all the leading lock-manufacturers. The key is inserted at the bottom of the padlock and rotates a set of levers which catch in the slots on both of the arms of the hasp. One arm is swivelled into the padlock case. Figures 354 and 355 are two other well-known padlocks, the former being used a great deal for government work and the latter having the hasp, staple and lock in one piece. The more common makes of padlocks are too well-known to require illustration.

LATCHES.

The ordinary door-latches have already been described in connection with the locks, but there remains quite a variety of latches which are made without any locking appliances, being intended simply to hold the door in position. Figure 356 shows the commonest form of latch used for elevator-doors, consisting simply of a bent lever, the lower arm of which is counterbalanced so that the lock will drop by gravity and

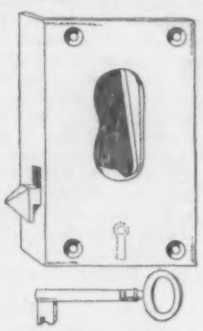


Fig. 356. Elevator-door Latch. J. B. Johnston.

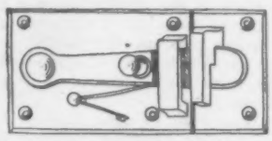


Fig. 357. Rim Sliding-door Latch. J. B. Shannon & Sons.

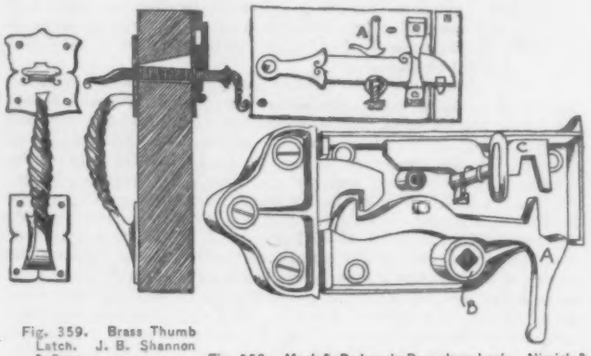


Fig. 359. Brass Thumb Latch. J. B. Shannon & Sons.

Fig. 358. Mack & Redway's Barn-door Lock. Nimick & Brittar.

remain closed until drawn back by pressure on the upper arm. Figure 357 is a very simple rim sliding-door latch; and Figure 358 is a very good rim door-catch which is self-acting, the hook being released by raising the lever *A*, either directly or by aid of the spindle, *B*, from the outside of the door; while it is locked from within or without, the slide *C* being moved so that *A* cannot be raised. Figure 359 represents one of a great variety of styles of thumb-latch, a very simple, old-fashioned form which is very suitable for some cases. Figures 360 and 361 are cheaper forms of thumb-latches, intended to be used only on screen-doors. Each of these styles has a lever of some sort, *A*, which serves to lock the latch. All of these patterns act by gravity. Figure 362 shows a spring-catch which is released by lifting or pulling out the handle on one side or by depressing the thumb-latch on the other, the latch being locked by the swing-lever *A*.

For French windows and cupboard-doors or for light screen-doors, one of the styles represented by Figures 363, 364 and 365 are employed. Figure 364 can be locked, and it and Figure 365 work with a spring.

PRICES OF LOCKS.

It has not been deemed advisable to publish in this connection any summary of the market prices of the locks which have been illustrated and described, as, without such an acquaintance with the subject as can come only by examination and comparison of the actual samples, any prices which might be given would be misleading, and would often be unfair criteria of comparison. The real value of a lock depends so largely upon the care with which the levers are fitted, and the care taken with such details differs so much with the various manufacturers that the price ought to be the last thing to be considered in selecting the locks for a house. A good lock by a thoroughly reliable firm can always be matched by a lock sold for considerably less money, which has the outward appearance of being exactly as reliable, and yet which is totally inferior.

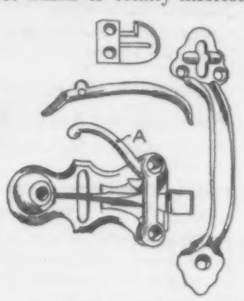


Fig. 361. Crown Screen-door Latch. Van Wagoner & Williams Co.

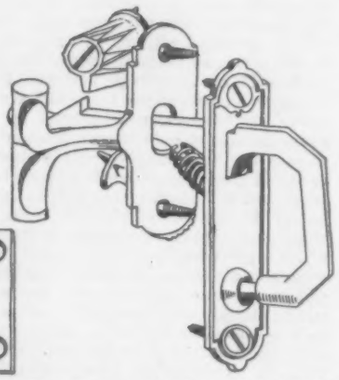


Fig. 360. Roggin's Latch. P. & F. Corbin.

Fig. 363. Cottage Latch. P. & F. Corbin.

Fig. 362. Screen-door Catch. P. & F. Corbin.

Surely the difference between good and bad workmanship could not be fairly illustrated by even the best of drawings, and it would never be wise to select merely from a trade catalogue. The only approximation which can be presented here is that previously given in the classification of locks by prices. It is of course very general, and consequently somewhat vague, and liable to exceptions; but it was prepared in conjunction with one of the largest hardware dealers in the

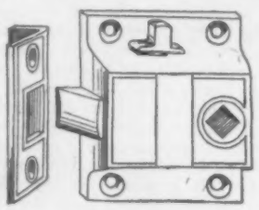


Fig. 364. Screen-door Catch. Reading Hardware Co.

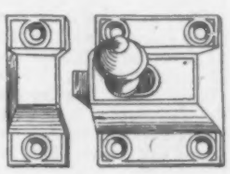


Fig. 365. French Window Catch. Reading Hardware Co.

country, and is sufficiently exact to serve as a guide to the general prices which should be paid, bearing always in mind that the wisest plan is to select only from the work of the best manufacturers and then only by samples.

The seventy-five or more locks which have been illustrated and described must be considered as types rather than as an exhaustive selection. A simple, three-lever lock is common property and several manufacturers whose names have not been mentioned in this connection turn out locks which are quite as good or better than those which have been selected for illustration. The difference would be entirely in the fitting or the finish, neither of which can be shown by the illustrations. All that can be hoped for is that this chapter may serve as a summary to guide in the general selection of the goods.

[To be continued.]

Why the Royal Academy exhibits no Water-colors. — It appears that the directors of the British National Gallery are not responsible, after all, for the fact that all water-color paintings are relegated to the basement, where very few persons ever dream of looking for them, but that they are precluded by the terms of the Government grant from either acquiring water-colors or exhibiting them with the works in oil. An effort will be made to amend this condition of affairs. — *N. Y. Evening Post.*

The Illustrations

[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

FIGURES FOR THE CALAIS MONUMENT. A. RODIN, SCULPTOR.

See article on "Auguste Rodin" elsewhere in this issue.

[Gelatine Print, issued only with the Imperial Edition.]

ARMORY, WORCESTER, MASS. MESSRS. FULLER & DELANO, ARCHITECTS, WORCESTER, MASS.

THE new building, which is to occupy the lot at the intersection of Grove and Salisbury Streets, facing Lincoln Square, is to be built of brick with brownstone trimmings, and is to be 67 by 85 feet, four stories in height. The second and third floors of the head-house will be for the use of the infantry companies. Each floor will contain two company rooms, 26 by 27 feet, the commissioned officers' rooms occupying the projecting bays at the front, while the rooms for the non-commissioned officers open from the rear. Each company will be provided with all the necessary rooms for uniforms, guns, dressing, etc., on the same floor. The fourth floor is occupied by a kitchen, 15 by 17, a large mess-hall, 27 by 44 feet, with band and drum-corps rooms at the front and a room for a gymnasium at the rear. The basement will be fitted up with dressing-rooms, harness-rooms, lavatories, boiler-rooms, armorer's-room, etc., while the basement under the drill-shed will be used as a magazine. A well-equipped rifle-range, extending through the basements of the head-house and drill-shed, giving a distance of at least 200 feet, will be one of the features of the new armory. At the rear of the head-house, and connected with it, is the drill-shed, a partial view of which is given in the cut. This will be only one story high, 75 feet wide, and will extend back from the head-house 160 feet. The roof will be supported by iron arch trusses rising from the floor, which will be entirely unobstructed by pillars or partitions, thus affording an excellent place for drill. A small section, 16 feet wide, will be shut off from the rear end of the shed as a gun park for the artillery. This section is separated from the main hall by gates, which may be raised up out of the way. The entrance to the drill-shed for the artillery will be in the centre of the Salisbury Street side, and the rear corners of the shed will be bastioned and furnished with loop-holes, commanding the sides and rear of the building in case of need. The floors throughout the building will be of hard wood, and the finish will be generally in oak.

HOUSE OF C. J. PAGE, ESQ., WESTLAND AVENUE, BOSTON, MASS. H. L. WARREN, ARCHITECT, BOSTON, MASS.

THIS house, which was completed last autumn, is built of common brick laid throughout in Flemish bond in white mortar, with bands and arches of pressed-brick laid in red mortar. The diaper pattern across the second story is formed by using the same two materials: dark, common brick in red mortar, with a light pressed-brick in white mortar. The columns in the arched windows of first story are of Georgia marble. The balconies, lamps, standards, etc., are of wrought-iron. The interior is elaborately finished in hard woods: the dining-room is in quartered oak, with wainscot four feet high and oak ceiling, and has an arched brick fireplace-bay, in which are placed oak settles. The parlor is finished in mahogany, with carved pilaster caps in the windows. The hall is wainscoted eight feet high, and is finished in cream-white. In the roof is a large studio.

GRACE CHURCH CATHEDRAL AND GUILD-HALL, TOPEKA, KANSAS. MR. H. M. CONGDON, ARCHITECT, NEW YORK, N. Y.

THE Guild-Hall is built, costing about $25,000. The Cathedral it is hoped to commence in a short time and carry out in its completeness. Mr. Seymour Davis, of Topeka, was employed as superintendent of construction of the Guild-Hall, but the local papers have mistakenly given him credit as being the architect.

VIEWS IN VERONA, ITALY.

See article on "Italian Cities" elsewhere in this issue.

HOUSE OF BERTRAND E. TAYLOR, ESQ., NEWTON, MASS. MESSRS. RAND & TAYLOR, ARCHITECTS, BOSTON, MASS.

A BIG BORED WELL IN CALIFORNIA. — M. R. Rose, of the Capital Iron Works of this city, has bored a well on R. D. Stephen's place, near Mayhew Station, which is the largest in this section of the State. It is thirty-two inches in diameter and 120 feet in depth. It is not only the largest bored well in the State, but it furnishes more water than any other. In fact, it is an inexhaustible reservoir that cannot be lowered. A sixty horse-power engine works a large centrifugal pump, that throws over 32,000,000 gallons per day, — more than our City Water Works pumps in a whole week, and what would measure in a ditch or canal over 1,000 miner's inches. So strong is the supply that this immense volume does not in the least lower the source of supply, and the water is as clear and pure as any obtainable. — *Sacramento (Cal.) Record-Union.*

AUGUSTE RODIN.[1] — VI.

Eve. Auguste Rodin, Sculptor.

IT was in this year, 1884, that Rodin began a bust of Rochefort. From the very beginning things did not go well with the Red Republican. As the work went on he became more and more dissatisfied, and finally would not give any more sittings. His explanation of his experience at the sculptor's studio is amusing. He says: "I went to the studio in the morning, sat down ready for Rodin to begin. Then he would look at me for an hour or two, turn to his work and look at that for the same length of time, put a bullet of clay carefully on it, and by that time we were ready for breakfast. On returning to the studio he would go through the same preliminary operation, and then take off the bullet. The bust never will be done." The sculptor, on his part, was equally dissatisfied with his sitter's impatience and total lack of appreciation, and, at last, he too, became disgusted. But the bullets had told their little story in the production of a great work of characterization. Though not completed it was cast in plaster, and declared to be, by Rochefort's assistant editors and friends, not only a superb likeness, but an astonishing piece of individualization. Plaster copies are now in the possession of several of the editors of Rochefort's paper, *L'Intransigéant.*

As time went on and Rodin's reputation increased, Rochefort experienced an awakened interest in the formerly despised bust of "bulleted" construction, and he indicated a willingness to resume the sittings he had before ridiculed. It was too late. The head that had looked Rochefort through and through by the hour, and had sent his cranium and visage into posterity as a powerful image in sculpture, had its sense of what was due to it and to art. The bullet process was not resumed.

In the early spring of 1885, Rodin was invited by a committee of the city of Calais to make a sketch for a monument to commemorate the heroic patriotism of Eustache de Saint Pierre and his five companions, who offered themselves as sacrifices to the demands of Edward III, the conqueror of the city in 1347. The original intention of the committee was a single statue of the principal personage, but Rodin included in his sketch the whole six in a group, St. Pierre being the chief figure. Of the several sketches sent into the competition, none of which had more than one figure, that of Rodin was accepted in the autumn of the same year. The superiority of the sculptor's sketch was commented upon by the Calais newspapers, and references made to the merits of his former work as a guaranty of a successful result. The receipt of this important commission was originally due to the friendship of artist friends. A pupil of Laurens's, named Isaak, told his master that his native city, Calais, proposed to erect a monument to these six men who went out to save their city from destruction, dressed as criminals in long shirts and with ropes about their necks, and asked him if he knew of a French sculptor that he could recommend as worthy to be invited by the committee to make a sketch. "Certainly," quickly answered Laurens, "Rodin is the one."

Rodin's last exhibition at the *Salon* was in 1885, when he sent a bronze bust of M. Antonin Proust, a former Minister of Fine Arts. If such were possible, it was spoken of with more enthusiasm than were the busts of Hugo and Dalou. The correspondents of nearly every important newspaper in Europe had some admiring word to say of this bust, some of them entering into quite a dissertation on its unique merits, an analysis of the genius of its author, and the probable effect upon French art of such a powerful worker in clay. In modern times, they declared, no one had ascended to so high a plane in bust sculpture. Among the notices was now and then a reference to the immense work upon which the sculptor was engaged in his secluded studio in the Rue de l'Université, and to the terrible difficulties he had encountered before he had become known. The appearance of this bust seemed to be a gratifying point of departure for the art-writers, and from which they passed in eulogistic review all of his previous works. The fact that Rodin had attained his enviable position without the help of any master or school was also commented upon. A few observations on this point, by Roger Marx, are as follows: "If one were obliged to judge the present condition of French sculpture by the works of the students at the Villa Medici (the French School of Fine Arts in Rome), as they are now seen at the School of Fine Arts, one would be led to conceive a sad opinion of French artists. But it would be an error to believe that noble art, elevated art, existed nowhere else, and that there was no health for it outside of the School. To mention the names of Puvis de Chavannes and Cazin, of Dalou and Rodin, is to remember temperaments of an essentially new kind, that develop without obeying any rule or following any conventionalism. These men represent the *grand art* of to-day — as *grand art* as there is — and you can study it in the first work you see treated with a free hand,

[1] All rights reserved. Continued from page 114, No. 689.

under such conditions as are absolutely necessary, to our way of thinking, for the conception and execution of a veritable work of art really worthy of the name."

In the summer of this year, 1885, the commission for the statue of Bastien-Lepage, which was proposed to be erected to his memory in his native village, Damvilliers, was given to Rodin to execute, and it came about, says the latter, in this way: "The first time I saw Lepage was several years ago, at a club that met in the Rue Veron, called the Pieds Crottées. He was talking very loud and a good deal, his hair was brushed down over his forehead, and he made considerable noise generally. I said to myself: Who is this young chap who makes such an uproar? He can never be a friend of mine. Some time after this he came to my studio, expressed his admiration for my work, and after he returned home he sent me a very charming letter, full of appreciation of what he had seen, and assuring me that he would get some of his friends to buy my things. In a little while he came again and bought a marble copy of the figure of 'Sorrow,' which he placed in his studio as the only piece of sculpture there. We, of course, became the best of friends, and, after he died, the committee who had charge of the erection of the statue, and knew of our friendship, gave the commission to me. I made him painting in the open air, because he was the strongest living representative of that way of working. It will be a little larger than life. Lepage was a follower of Manet, with a little touch of the School. He had a great tenacity for nature, and was very sincere. He understood Manet better than any one, or as very few did. I did not understand Manet until Lepage led me to one of his pictures to show me how good they were. But I was not converted, though I found them droll. Afterwards, I became a great admirer of Manet. I saw that he was a great artist. He has made a tremendous impression upon French art, a great leader for those who came after him. Even prominent artists, who despised him when living, and won't commend him now, show in their pictures that they are willing to copy him. Some of the men who paint in the same style that Manet did, and especially Monet, are stronger than he was. The latter is a very great artist, one of the deepest seers into the mysteries and solidities of nature that we have ever had. Sometimes Manet was a little thin, though always in the right direction. Poor Manet! though such a reviving power, he is quite forgotten. You never hear his name mentioned."

Group from the Door. Auguste Rodin, Sculptor.

It was also during this year that M. Turquet placed to Rodin's credit the sum of seven thousand dollars for the purpose of paying for the casting of the door in bronze by the wax process; and the first well-paid commission that Rodin had ever received came this year from the Baron Alphonse de Rothschild.

Rodin's exhibits at the *Salons* of 1883–4 and 5 had awakened so much interest among art-writers that when that of 1886 came round, and nothing from his hand was seen, there was expressed a general regret. Allusions were made in regard to the superiority of French sculpture over the painting, to such men as Aubé, Dalou and Rodin as its best representatives, and to the fact that the latter had not been justly treated in any respect by the art authorities of the *Salon*. In regard to the last allusion, it was prophesied that although it was a disgrace to art to quarrel over such a man, there was complete consolation in the belief that the great statues of the Calais Monument and the surprising compositions for the great door, upon which he was then engaged, and which would be shown to the public in a short time, would forever set at rest the criticisms which had begun on his first arrival in Paris with "The Age of Brass."

Group from the Door. Auguste Rodin, Sculptor.

The fifth International Exhibition of Painting and Sculpture at the galleries of Georges Petit, in the Rue de Seize, was open at the same time as the *Salon* of 1886. Rodin had been invited to contribute, and he sent his busts of Dalou and Rochefort, and a number of small plaster sketches of figures belonging to his door. The appearance of these sketches was the signal for a more general and analytical examination of the sculptor's genius, and for a renewed declaration of his superiority. At the close of a long article in the journal *Le Voltaire*, Roger Marx, said: "When this door is completed, perhaps in 1889 for the great exhibition, we shall see what a master of the true French line of Pugets, Rudes and Carpeaux can do, one whom the sculptors keep at a distance — from fear or jealousy — and who will dominate them all by the incomparable strength of his talent, strange, original and profound."

Group from the Door. Auguste Rodin, Sculptor.

But it was not until the next year, at the same place, that Rodin took the entire Paris world of art by storm — critics, amateurs, and the most distinguished lovers of art. Even the sober and age-respecting *Gazette des Beaux Arts* placed its palm of admiring accord upon the now successful artist, by publishing the following article from the pen of Alfred de Lostalot: "Sculpture has for a representative, in the Rue de Seize, an artist of the first order who is rarely seen at the *Salon*, and whose fame has not yet passed the limits of the members of his profession and of the amateurs whose curiosity is strongly aroused. It is impossible in a few lines to analyse a talent so original and powerful as that of M. Rodin. All that we can say, is, that there will be a lively uproar in our world of art when the great door that he is making for the Museum of Decorative Arts, and his group of the 'Men of Calais,' are shown to the public. In the meantime we advise every one to go and see the plasters on exhibition in the galleries of Georges Petit, comprising fragments of these great works, and some finished pieces, the bust of Madam Roll, and a group in bronze that Houdon would have called the 'Kiss.' The value of these works strikes the eyes at once; one feels that they are the emanations of the brain of an artist haunted by grand and original thoughts, and in whose hands the finest fancies take a new and imposing movement. Happily, M. Rodin is not without his faults, and he has found a place in this exhibition that agrees with his temperament, for he is also a seeker, a revolutionary, if you will, who in sculpture aspires to deliver us from the Greeks and Romans. Let us salute this man of convictions and wish him the best of fortune."

Rodin's contributions to this exhibition were three of the statues, in plaster, for the Calais Monument, a sketch of the Lepage statue, a marble bust of Madam Roll, a group in bronze belonging to Baron Rothschild, two groups in marble, a statue called "The Source," and a number of figures and groups, in plaster, belonging to the door. The articles concerning this exhibition of Rodin's works embraced the whole gamut of praise, appreciation and encouragement; of cutting illusions to the *Salon* — filled with academical nullities — and of bitter references to the shameful struggle that such an artist had had to pass through to get a foothold, even in beautiful Paris, and the surprise that the governing art authorities of the State had not discovered him long ago and filled his hands with the execution of great monuments. To some of the figures belonging to the door, that were

in the exhibition of the previous year, an occasional allusion was made in regard to the unusual freedom of their composition and action, and the slightest hint was given that too susceptible minds might not look at them with as chaste a feeling as the sculptor intended to convey.

The same point was alluded to in reference to several works in the present exhibition. After paying his admiring respects to the busts of Dalou and Rochefort, Armand Sylvester, in *L'Independance Belge*, says: "Then comes a series of works in plaster and marble that are evidently not intended to be used in the education of young girls." After describing a figure of Eve, belonging to M. Auguste Vacquerie, which he regards as, beyond comparison, beautiful, he continues: "We now approach the Baudelarian series that begins with a magnificent plaster group, representing a vigorous man who has lifted to his very lips the gathered-together body and limbs of an enamored and submissive woman. I cannot describe the trembling passion that is shown in this double movement of victory and defeat, with what fury this savage idyl is treated, the sharp and sensual perfume that it displays, the air of wild voluptuousness in which this scene is enveloped. As an inscription, this line — from the '*Flowers of Evil*' — dedicated to beauty: 'I am beautiful, O mortals, as a stone dream.'

"What melancholy in this other figure of despair on the plinth, of which I read these lines: 'How many flowers exhaust themselves in perfumed regret like a sweet secret in the depths of solitude.'

"Is it an Ariadne weeping for her absent lover? Rather a Sappho before being conquered by the virile love of Phaon. All this is but the threshold of the temple into which M. Rodin conducts us to the presence of the living idols of the flesh that are crucified by desire. Here I close all description. Never has physical love been treated with such truthful impetuosity, in such a sentiment of violence and despair. For there is a grand foundation of unsatisfied desire and mortal melancholy in these entwined bodies that stretch out in search of wild kisses, kisses that burn rather than refresh the lips. The august fraternity and the mysterious parentage of Love and Death are proclaimed, without ceasing, in these strange images, to which a noble sentiment has given a relative chasteness. For the beautiful is always chaste to a certain degree, as Diderot has said in an infinitely more picturesque language. In fact, all these little groups are incontestably beautiful. M. Rodin shows himself to be a greater artist than ever, and that is the essential thing, in spite of the *shocking* effect that sentimental misses will experience as they pass through this labyrinth of plasters."

The chief object among the sketches belonging to the door was a group which the sculptor called "Francesca and Paolo," but which others variously named "The Lovers" and "Love." It was made the subject of a long and appreciative article by Gustave Geffroy, and published in *La Justice* — too long to reproduce at this time. A catalogue description of the group would read like this: A young girl sitting in the lap of her lover, arms of both entwined around the bodies and necks of each, kissing as only lovers can kiss — both figures nude. To prudish minds this group would be deemed vulgar, to sane ones, a beautiful and chaste expression of the sentiment. This group was exhibited in Brussels and ridiculed because it was nude, the fact that it was a great piece of sculpture being almost entirely overlooked. Octave Mirbeau closed a brilliant article on these figures in these words: "Ah! what sovereign melancholy, and what love!" Still another group, more vividly or surprisingly dramatic, represented a female fiend of hell, or a syren of desperately sensual character, sailing through space carrying a bewildered lover upon her back. From the point-of-view of audacity of movement, nobility of line, dramatic force, living and human personality, the statues belonging to the Calais Monument were declared, by all writers, to be simply masterpieces. "No sculptor of modern times," they said, "has approached M. Rodin." "For richness of imagination, learned grace, robustness and power in the use of clay, and splendid truth in the representation of flesh, he has no equal." "Say what you will, the world must recognize this grand artist."

In 1886, M. René Goblet, the Minister of Fine Arts, delegated Rodin, and his friend Laurens, to go to Bourges to act as the sole judges in awarding the recompenses at an art exhibition. There had been provided for their disposal a lot of honorable mentions, and a Medal of Honor for each department of sculpture and painting. Now the good mayor of the city, who belonged to a noble family, had in his prideful charge the Bourges School of Fine Arts, the chief professor of which was his personal favorite. As naturally as water runs down hill, so did the mayor fancy that to the director of the school would be awarded the Medal of Honor in the Department of Sculpture. In the first place, this personage was the most distinguished representative of art in all the country round; and in the second place, he was the mayor's choice as the leader of the youthful art destinies of the city, and to whom else should this distinctive seal of approbation be entrusted! Both were doomed to disappointment, and their mortification cannot be described when they learned that the medal had been given to an hitherto unknown young sculptor, who, as a poor marble cutter, had sent to the exhibition a statue of "Louis II," and some busts and bas-reliefs.

In honor of the expected distinction of his protegé, the mayor had prepared a bountiful dinner for the evening of the day when the prizes were given, and to which the distinguished judges from Paris were invited, in company with the chief notables of the city. But the above unexpected and sorrowful event cast a very chill of death over the art professor and destroyed the joy of the generous official. But being a man of parts and undismayed courage, the mayor boldly and vigorously urged the artist representatives of the State to reconsider their decision, but all without success. Neither rich viands, cheering wine nor official urgency could move the hearts of Rodin and Laurens. Neither did this new disappointment deprive the host of all his wits, for he now asked them to explain *why* they gave the medal to the despised sculptor. To which Rodin answered, "Because he has the best things in the exhibition, yet you don't even know him or care to recognize him." And he added: "When you make another exhibition do it, first, for the benefit of your citizens, for their encouragement, then if you have not enough things and wish to send to Paris for more, get the best, and not the poorest, as you have now done. You ought to be proud to have a young man in your city who can show such a statue as the 'Louis II,' and the busts and bas-reliefs." This was a pretty severe lesson for the good mayor, but he bore it well, agreed with its good sense, and promised to follow Rodin's advice in the future.

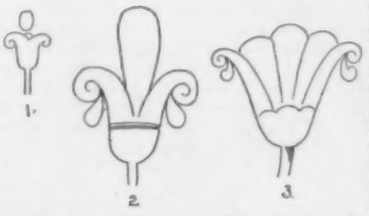
Baffier, was the name of the young sculptor. He afterwards came to Paris, got mixed up in politics and attempted to kill a member of the French Legislature. He came originally from the same place as St. Just, became an ardent believer in the tenets of that personage, and was, by many, considered crazy. So, incidentally, Rodin and Laurens encouraged a mad man.

T. H. Bartlett.

(To be continued.)

THE LOTUS IN ANCIENT ART.[1] — IV.

THE LOTUS AND THE PALMETTE.



THE object of my last paper was twofold — to eliminate the supposed papyrus from the list of Egyptian decorative motives, and to add to them the rosette as a picture of the ovary stigmas of the white and blue lotus. I now propose to explain the origin of the Egyptian lotus palmette. This will be found subsequently to bear on the development of the Assyrian palmette and of the Greek anthemion.

The matter already offered on the subject of the Egyptian Ionic will explain such voluted lotus forms as are seen in 1 and 2.

These may also be understood as lotuses, and as regards the exterior volutes, from the form 3. No. 1 is a voluted lotus supporting a seed of the rose lotus (from the "*Description de l'Egypte*," V, Plate 80). No. 2 is a voluted lotus supporting an inverted bud (from Prisse d'Avennes) — cases analogous to those illustrated in the last paper.

No. 4 from Prisse d'Avennes, then appears as a voluted lotus supporting the ovary stigma, a case analogous to the lotus flowers and buds supporting rosettes previously illustrated.[2]

No. 5, an Egyptian palmette of the eighteenth century B. C. (Prisse d'Avennes), one of the commonest motives of Egyptian decoration, is thus explained as a lotus palmette in which only a portion of the rosette (ovary stigma) appears in plan, the rest being concealed by the flower.

In Egypto-Phœnician decoration No. 6 is a common and related lotus palmette, differing only by the absence of volutes. The detail

shown in this case is from a shield found at Amathus, in Cyprus.

No. 7 is seen to be either an abbreviated and conventional outline of 5 (within which an inverted bud is placed as in 2), or the palmette may represent a portion of the top of the seed-pod of the rose

[1] Continued from No. 692, page 150.

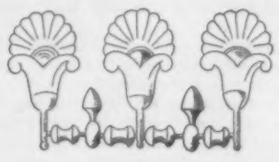
[2] For convenience of reference and direct comparison, the cuts herewith are reproduced from the preceding article: *a*, ovary and stigma of the blue lotus; *b*, ovary and stigma of the white lotus; *c*, lotus flower supporting ovary stigma; *d*, lotus bud supporting ovary stigma.

lotus, on which there are no rays. (Compare cuts 20 and 21 of the last paper.)

No. 8 is another modification of No. 5.[1]

Nos. 9 and 10 are motives in gold jewelry illustrated by Prisse d'Avennes; 10 relates to No. 2; 9 to No. 5.

No. 11 is a rough sketch of a portion of the gold handle of a tray in the Boston Museum of Fine Arts, presumed to be of the twenty-sixth dynasty. In this case the palmette is elongated for decorative



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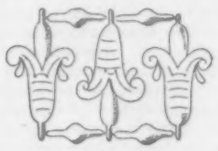

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reasons. The most important forms are those of Nos. 12, 13 and 14. The designs are of Egypto-Phœnician art in metal (bronze and silver) from the most famous Etruscan tomb in Italy — the Regulini Galassi.

This tomb and the "Grotta Campana" are the earliest Etruscan tombs known in Italy. Its construction relates it to those of Mycenæ and Tiryns as regards antiquity. It cannot in any case be dated later than the eighth century B. C.

A much higher antiquity can be assigned to similar palmette designs, as it will be shown in a later

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article that they were copied in Mycenæ pottery designs of the second millennium B. C. From these motives we have no difficulty in reaching the palmette pure and simple, as found in blue enamel examples of the Boston Museum, Nos. 15 and 16 (Hay Collection).

In Mariette's photographs from the Boulak Museum, the photograph No. 17 for the tomb amulets shows three such examples in the centre of the plate, so that the palmette clearly appears to have been for Marriette's comprehension a typical Egyptian form.

In the lotus palmette examples herewith offered as combinations or derivatives of the voluted lotus and the lotus rosette (ovary stigma) the question of dates offers no difficulty — that is in case an influence from the side of the Assyrian palmette should be suggested. Sufficient examples can be proved to date from the eighteenth dynasty to clear up any suspicions on this head. The earliest remains of Assyrian ornamental art and the earliest Assyrian palmettes are nine centuries later.[2] Moreover, the tables can be turned on the Assyrian palmette in such a way as to make it appear that this is derived from the Egyptian lotus palmette, and not from the palm-tree.

It has been observed in a preceding article that Assyria was an Egyptian province under the eighteenth dynasty. The relations of the Phœnicians to Egypt and Egyptian art have been explained.

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The geographical position of the Phœnicians on the Syrian coast, midway between Assyria and Egypt, made them the natural mediators between the civilizations of the two countries.

Objects of Egyptian style are found in great number among the Assyrian remains, and the influences of Egyptian ornament on the Assyrian art are universally admitted.

Among these ornaments of admitted Egyptian origin are the Assyrian lotus motives, to which I have proposed in the preceding article to add the rosette. The outlines of the Assyrian palmette have an undeniable resemblance to the form of the palm-tree, as represented on Assyrian reliefs (see illustrations in the first paper on the Ionic capital), but there are absolutely no traces of a decorative development by which the ornamental palmette form was evolved from the natural palm-tree. Above all there are no cases in Assyrian art in which the palm-tree itself is used as an ornament, while the instances to be quoted for the natural lotus form are simply innumerable. Symbolical use of the palm can probably not be shown to have been frequent much earlier than the Christian era. There are one or two rare instances of palm-trees on the Assyrian or cylinder seals, but these are cases in which the natural aspect of the tree is fairly represented. The palm-tree proper appears in the Assyrian sculptured reliefs purely as part of the natural scenery, and never as an ornamental detail.

On the other hand, the resemblance of the Assyrian palmette to certain forms of the Egyptian lotus palmette is so close that a derivation of the one from the other appears absolutely certain.

No. 17 is an Assyrian motive from a cast in the Boston Museum of Fine Arts. Its relations to 13, 14, 15 and 16 are sufficiently striking. It may be added that Phœnician bronzes, with the Egyptian motive 14, have been discovered at Nineveh, and published by Layard.

No. 18 is another form of the Assyrian palmette which is easily reached from 17.

In the case of the Egyptian palmettes we have, aside from the precedence of dates, a precedence of at least seven centuries, a detail which forbids the counter hypothesis of reaction of an Assyrian form on Egypt. The little tabs or streamers which appear under the volutes of 2, 3, 4, 5, 7, 8, 10, 12, 13, 14, 15 are distinctively Egyptian. They are possibly to be conceived originally as lotus buds, and appear to have this significance as reversed in the cut 36 of the second article on the Ionic capital and the lotus, but whatever their meaning they are clearly an ear-mark of the Egyptian lotus motives. It is certain that their constant appearance in so many different lotus motives separated by remote periods of time is a feature of that curious conservatism and adherence to traditional usage, which is so distinctive of the Egyptian character and art. On the other hand, the Assyrian art would be naturally bound by no such conservative or traditional feeling, and thus we understand how the palmette form itself passed into Assyrian usage as an ornament without the extraneous appendage, which in Egyptian use was rather a tradition than an essential ornamental feature.

As the Persian art is a continuation of the Assyrian and Babylonian, the appearance in it of palpably Egyptian lotus palmettes

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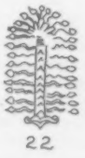

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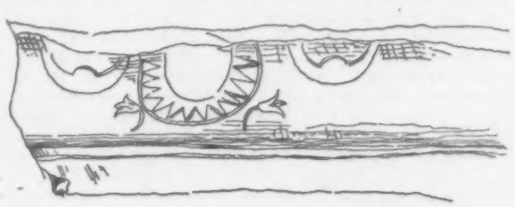
may be considered a corroborating argument. No. 19 is a relief-detail from Persepolis. No. 20 is a detail of tile decoration from Susa (excavations of M. Dieulafoy). No. 19 is a variant of 6; No. 20 is a variant of 11.

ASSYRIAN "SACRED TREE."

The Assyrian "Sacred Tree" combination of palmettes offers a new argument in favor of the lotiform character of the Assyrian palmette. The two typical forms of the Assyrian "Sacred Tree" are shown at 21 and 22.

I am advised by a competent Assyriologist, Prof. A. L. Frothingham, Jr., of Princeton College, that the cuneiform texts offer no information as to the meaning or origin of the "Sacred Tree," and that it does not appear in the earlier Chaldæan period. This is also apparent from what has been said as to the late appearance of the palmette form in the Tigris-Euphrates valley. So many Chaldæan cylinders have been found, that they furnish fair negative evidence as to the appearance of the "Sacred Tree" of palmettes in earlier times than the ninth century B. C.

It is clear, however, from the monuments that the "Sacred Tree" of palmettes is connected with the worship of the sun, as the winged



23.

solar disk frequently appears above it and the attendant worshippers (see the plates of Layard). The relations of the lotus to the solar cult of Egypt have already been explained (first article on the Ionic capital), and the same relations appear in the art of the Phœnicians. Figure 23 represents a Phœnician relief from the neighborhood of Carthage, in which the solar disk and crescent appear with the lotus. We have found an illustration of the lotiform significance of the Ionic capital in the support of the solar disk in the Sippara tablet

[1] No 8 is a detail from Owen Jones's "*Grammar of Ornament*"; No. 2 is from the "*Description de l'Egypte*"; No. 6 is from Colonna-Ceccaldi's "*Monuments de Chypre.*" The other numbers so far are from Prisse d'Avennes's motives of ceiling panels and borders in tombs.

[2] According to Maspéro the eighteenth dynasty begins about 1800 B. C. The earliest Assyrian palace which has been excavated belongs to the ninth century B. C. — the latest belongs to the seventh century. There are no remains of Assyrian ornamental art earlier than the ninth century known at present.

(Figure 35, second article on the Ionic capital); in the Ionic stèle supporting the crescent and the solar disk (Figure 31, second article on the Ionic capital); in the appearance of the solar disk and crescent on Ionic stèles and capitals of Cyprus (Figures 10 and 30 of the same article); in the Ionic capitals supporting the winged solar disk at Boghaz Keui (Hittite relief, Figure 35, same article); and in the lotus-Ionic stèle, with head of Isis (moon-goddess, Figure 11 of the same article). Finally, Assyrian seals and cylinders are extant in which the lotus flower itself is represented before the worshipper of the winged disk or of the crescent-moon.

To these indications that the "Sacred Tree" of Assyria is a phase of the same associations between the lotus and the worship of the sun which are otherwise proven to exist for Assyrian, Phœnician and Egyptian art, still others may be added. Worshippers of the "Sacred Tree" hold branches represented at 25, 26, 27, 28 — details taken from plates in Layard. These branches represent ceremonial and symbolic insignia, probably in metal, borne by the worshippers or priests. No. 25 is a branch of lotus flowers with rosettes (ovary stigmas) at their base. No. 26 represents a branch of lotuses with rosettes and lotus buds. No. 27 is a branch of lotus rosettes; 28 is a branch of lotus palmettes.

24.

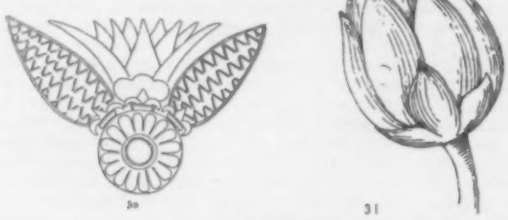
To these associations still another argument may be added. An object frequently held by the divinity facing the "Sacred Tree" has been generally interpreted as a fir-cone. This interpretation has

25 26 27 28 29

been suggested by a purely external resemblance, and there are absolutely no symbolisms known or records extant which would explain the use of such an attribute. No coniferous fir-trees are represented on the Assyrian reliefs, according to a recent article in the *Babylonian Record*. The lack of authority for this interpretation, and its want of meaning, have lately prompted the suggestion in the *Babylonian Record* that a citron is indicated.

No. 29 is a detail of the bud-shaped object held by the divinity facing the Sacred Tree.

An obvious interpretation of this supposed fir-cone is suggested by the treatment of the lotus bud in Assyrian relief. No. 30 is a detail from the lotus decoration of an Assyrian slab in the Metropolitan Museum of Art. Examination of the Assyrian lotus patterns, as published by the various compendiums of the history of art, or by Owen Jones, will show that this treatment of the lotus bud is general in the Assyrian reliefs.



30 31

The bulbous form of the bud of the rose-lotus and its resemblance to a tulip have been noticed by botanists, and are apparent to any one examining the plant. (The buds of the blue and white lotus have a more elongated form.) The sketch herewith at 31 was taken from nature in the lily-ponds at Bordentown, N. J., by Professor Frothingham. The naturalistic tendencies of Assyrian art are well known, and the hatched lines of the Assyrian reliefs may be safely supposed to imitate the appearance of the natural bud, as represented at 31. Professor Frothingham's interest in my theory, shown by his sketch, may be regarded as an indication that it is not repugnant to the present known facts of Assyrian science. There are Assyrian tile decorations in which the winged divinity holds the bud-shaped object facing a rosette, another case of lotus association according to the views presented in my last paper.

32

It may be urged, in the next place, that the different forms of the "Sacred Tree" are brought under a common explanation as to origin by the theory proposed. That certain "Sacred Trees" should represent combinations of fir-cones, as in 22, and that others should represent combinations of palms, is an unexplained and inexplicable state of affairs. Still more incongruous would be the association so commonly seen in Assyrian decoration, and represented at 32. Why fir-cones should spring from a palm-tree is not easy to understand. That lotus buds should spring from a lotus-palmette is easily understood. The representation of lotus buds in the branch figured at 26 appears to be a conclusive point, and it may be observed that a similar treatment of the lotus bud is occasionally found in Egyptian design.

It thus appears that the derivation of the Assyrian palmette from the Egyptian lotus-palmette is rendered probable by the close resemblance of the forms, by the precedence of the Egyptian motive in point of time, by the known direct relations of Egypt to Assyria under the eighteenth dynasty as a conquering power, by the dependence of the Assyrians on Egypto-Phœnician influence in ornament, and by the various considerations which substitute a relation of the lotus to solar worship, known to exist at once in Egypt, Phœnicia, and Assyria for an interpretation of the "Sacred Tree" without authority and without probability.

The sacred character of the lotus "tree" is illustrated by a series of ivory plaques in the British Museum which were probably inlaid decorations of furniture, possibly of a throne. One of these is shown at No. 33, an adorer before a lotus, which rises from the conventional form of lotus volutes and triangle explained in the matter

33 34

relating to the Ionic capital. The Egyptian style of this ivory plaque, which is probably of Phœnician manufacture, speaks for itself. It is from this series of Egyptianizing ivory plaques that the details are taken on which Mr. Clarke relied for his connecting link between the form of the Chigri capital and the form of the Assyrian palmette. A connecting link between these two forms of lotus-palmette it undoubtedly is.

It is clear that we are dealing with a motive analogous to 35. This motive is an Egyptian variant of designs like 5 and 13, and is taken from the metal designs of the Regulini-Galassi tomb. Thus the Ionic capital of Chigri (Neandreia), shown at 10 in the first article on the Ionic capital, takes its place among the forms of the lotus-Ionic, and is seen to be simply a variant of that aspect of the lotiform proto-Ionic already dealt with, in which the triangle between volutes is the distinguishing feature. One more of these latter motives is shown at 36, also from one of the Egyptianizing ivory plaques of Nineveh in the British Museum, in order to exhibit the contrast and unity of derivation which can be shown to exist within the limits of the lotus motive for the various forms of the proto-Ionic capital.

35 36

The development of the Greek anthemion will be found to bear out the position taken in this paper as to the Assyrian palmette. A reactive and secondary influence of the Assyrian palmette on the Greek anthemion may be readily conceded, but its supposed original relations with Assyrian art will be found to be unsubstantiated, and its connection with the Egyptian lotus-palmette will be demonstrated beyond peradventure.

Wm. H. Goodyear.

[To be continued.]

The Corinth Canal.—The work of cutting through the Isthmus of Corinth is reported to suffer under the same financial difficulties as the Panama Canal work. A German technical journal states that when the subscription was opened for the carrying out of the scheme in 1882, estimated to cost thirty million francs, and to be finished in six years, the money was subscribed five times over. In 1887, however, this sum had been expended, and a further sum of thirty million francs was invited. However, up to the present only a third of this sum has been obtained, and if no further funds can be obtained the work on the canal will soon have to be stopped. Hitherto about two-thirds of the earthworks have been executed, but there still remains a great deal to be done, and it is now stated that as the canal will cost twice as much as originally estimated, no profits can be anticipated. — *The Builder.*

ITALIAN CITIES. — VI.

VERONA. — I.

ON the road to Milan and Venice, the most interesting city that is encountered, from the point-of-view of history and of art, is Verona, sitting on the banks of the Adige, which separates it into two unequal parts, the smallest of which is called Veronetta. The bridges serve to connect these two fragments of the city, which, with its ancient towers and crenellated walls garnished with loop-holes, preserves a monumental and severe aspect which at first sight recalls the physiognomy of towns of the Middle Ages. Through the mixture of sumptuousness and martial aspect, we understand why it was the seat of the powbr of the Scala family, the most illustrious member of which, Can Grande, has been justly called the Augustus of the Middle Ages, since he was the head of a veritable literary court, at which Dante, the grand Italian poet, and all the other illustrious men of the age rendezvoused. To-day Verona is dead, and its vast extent, so little proportioned to the reduced number of its population, contributes to impress upon it a painful air of desertion and irremediable decadence. The streets have needless width, and the squares are so vast that, as President Des Brosses said, there could be built in them entire villages.

The origin of this city is very obscure, but the most reasonable tradition is that which attributes its foundation to the Euganeans, a people which had its cradle in a group of grand and fertile mountains, whose silhouette shows itself a short distance beyond Padua, on the banks of the Bochiglione. About the second century it was already a flourishing city, and when it fell under the power of the Romans it did not long delay in acquiring municipal dignity. In 555 it became the capital of the Lombard Duchy, and under the successors of Charlemagne was the capital of the Lombard Kingdom. From this time dates the commencement of its real splendor. After having formed a part of the Lombard League against Barbarossa, it fell under the power of Ezzelino, whose tyranny and scoundrelism put to the blush the memories of the most cruel tyrants of Sicily. It next passed successively under the rule of the Scala, the Visconti of Milan and the Carrara of Padua; and finally, in 1405, it became a part of the possessions of the Republic of Venice, whose vicissitudes it followed. At different times it gave birth to men of universal fame — Catullus, Cornelius Nepos, and Pliny the Elder were born here, as well as Fracastor, who, in the sixteenth century, was a poet physician of much celebrity, author of a poem in three books, which the learned of former days delighted to consult. Scipio Maffei, another and more celebrated poet, author of the tragedy "Meropa," was born here in 1713, as well as Pindemonte, a friend of Hugo Foscolo, toward the end of the last century, and Aleardo Aleordi, the romantic poet at the commencement of this century; but although all these names suffice to assure it unusual celebrity, their éclat is eclipsed by that of Paul Veronese, the grand painter of the Venetian school, who was the equal of the incomparable Titian in composition and design, and who would have surpassed him perhaps, if he had little more *fougue*, more warmth and more dash in his coloring.

Like all the cities which have played an important political rôle in Italy, and which in the Middle Ages gave an asylum to some of the feudal families who shared the power amongst themselves, Verona occupies an important place in the history of art. Roman domination left here visible traces in some of the monuments religiously preserved, especially the arena, which is assuredly one of the finest relics of antiquity. Later Verona found itself exactly at the point of junction of Byzantine and Gothic art, whose commingling gave birth to the Lombard style which from the foot of the Alps spread through the whole of Italy between the eighth and the eleventh centuries, undergoing during the progress the transformations which Italian genius impressed upon it in proportion as it penetrated farther into the depths of a nation always rebellious, in matters of art, against foreign importations. When, consequently, Italian Renaissance assured the triumph of an art essentially national in its characteristics, Verona lost much of its importance; but it had paid a sufficiently large tribute to the artistic progress of the nation and especially to architecture, for besides Falconetto, who is one of the most distinguished architects of the sixteenth century, it also saw the birth of Fra Giocondo, who built the bridge of Nôtre Dame at Paris, and Michel San-Michele, who died in 1559, whose brilliant career we will trace later on, and who disputes with the famous Palladio of Vicenzo the title of the Vitruvius of his age.

The Austrian domination, entirely repressive and retardatory in its nature, prevented this interesting city from following the social progress realized in other civilized countries. Under the yoke of the foreigner, the Italian people was forced to vegetate in fear, without initiative, without impulse, and so long as the oppression to which it was subjected endured, it underwent a period of arrest, at the end of which almost the whole peninsula was found to be in the same condition as at the moment of its enthralment.

The history of the arts and especially of architecture gained, for it is due to this stagnation of Italian genius that we are able to discover in a great many Italian cities the original and characteristic physiognomy which they had in former times, and which now is rapidly beginning to disappear. Rome, for example, is becoming little by little unrecognizable, and the rage for transformation with which its municipal authorities are animated, and which is inspired, it must be confessed, by a very praiseworthy desire to beautify and renew, is exercised, nevertheless, in such a vehement and ill-considered manner that the relics of the past are sacrificed without pity, and the new aspect which is given to this great metropolis of the Christian world shocks the feelings of the cultivated and those of poetic sensibilities. It is almost the same in all the other great Italian cities where a need is felt of making good lost time and effacing the stamp of varied picturesqueness which the mighty ages of art have impressed upon it.

Placed outside the great currents of modern life, Verona has in many ways partly escaped this mournful municipal sickness, and its houses still preserve in part the sombre and at the same time gracious proportions which they had in the fifteenth century. In the chief streets we still see the long ranges of iron balconies projecting from the façades, whose too brownish color is relieved by the sparkle of the pots of flowers which garnish them. The marble pillars, the flower-filled windows, the arched doorways, certain façades still embellished with fresco, degraded by age and bad weather, and the magnificent tombs of the Scaligers, which are to be found right in mid-street, all recall to the imagination those agitated times when civil discords and feudal quarrels soaked the soil of Italy with human blood; when the cares of cultivated men were divided between love and war, and the patrician went out by night with a rope-ladder in one hand and a poniard in the other to renew his oaths of fidelity at the feet of the lady of his thoughts. Involuntarily one thinks of the terrible hatreds of the Capulets and Montagues, who divided Verona into two factions always armed one against the other, whose tragic denouement, real or imaginery, suggested to Shakespeare the subject of his immortal drama. The fame of Romeo and Juliet still lingers persistently amongst the Veronese, and the young girls cannot mention this unfortunate heroine without tears in their eyes. It is on this account that one must be somewhat on his guard against local legends, which popular faith, joined with a spirit of speculation, has invented and fixed tenaciously upon certain monuments which people seek to attach to the cult of Juliet. It is well, also, to apply this feeling of distrust wherever one travels in Italy to almost all the monumental relics which the rapacity of local showmen has nearly succeeded in uniting with the fame and reputations of illustrious persons. We are shown for example at Florence, near the cathedral, the stone upon which Dante used to sit and dream before his exile; and at Ferrara a guide conducts the traveller into the cell which served as Tasso's prison. Now, recent studies have shown that the author of "*Jerusalem Delivered*" was never persecuted at the courts of the Dukes of Este, that his captivity is a fable, and that at the time when he lived this famous *cachot* was not even built at Verona. We are shown, also, in the street of San Sebastiano, and not far from the Giusti Palace, celebrated for its garden labyrinth, the house where, according to tradition, Juliet was born, as also an inscription declares. It is a heavy, commonplace looking building, provided with two balconies, and possesses no particular character, except the probably unmerited honor which is attributed to it of having been the birthplace of Romeo's sweetheart. At the side of the Rue des Capucins, near the banks of the Adige, the guides point out an old sarcophagus as the tomb of Juliet. This is found at the bottom of a garden, and the structure upon which it rests is carefully enclosed by a wire grating. Here, also, one must preserve a grain of scepticism, although the walls are covered with *ex voto* offerings and precious souvenirs of every kind, which lackadaisical young women and especially young English misses, have consecrated to the shade of this child martyr. There was a time when the sarcophagus, which had had the glory of receiving these august remains, was considered to be a talisman: the Archduchess Maria Louisa caused a necklace and bracelet to be set with the red stone of which it is built, and the prettiest women in Verona considered it an honor to carry charms made of this same red stone fashioned like a little sarcophagus; but in 1826 the peasants of the neighborhood very prosaically washed their lettuce in this red basin, which, indeed, from the form in which it is fashioned proves that it was really intended for a more every-day use than that which is attributed to it by the ignorant common people.

The tombs of the Scaligers in the Cemetery of Santa Maria Antica have at least the merit of being authentic. We designate under the title of Scaliger the dynasty of the Princes del la Scala, who reigned at Verona for 128 years, from 1259 to 1388, whose history is a mixture of vices and virtues, of crimes and mighty deeds,

[1] Continued from page 122, No. 664.

very common to the princes of that time, forced for the most part to degrade their spirit to the level of the brutal and villainous passions of their contemporaries.

Mastino I, founder of the dynasty, was killed in 1277. After his death, people held as ruler, his brother Albert, who had the good fortune to die a natural death in 1301. Three of his children, Bartolomeo, Alboine and Can Grande, ruled in succession. Bartolomeo remained three years in power, and it was under his reign that Dante first came to Verona. He also died in his bed — a rare thing in that family. Alboine ruled only under the direction of his brother. He was frail and sickly by nature, and after the death of Bartolomeo, Can Grande found himself in truth lord of Verona. This man was a magnificent and ambitious noble, who became in a short time the leader of the Ghibelline party in upper Italy. He extended the dominion of Verona over a great portion of Venetia. An infectious fever carried him off in three days. Can Grande II, who succeeded him, found himself at odds with the two sons of Alboine and with another of his nephews, who disputed the throne with him. He succeeded in defeating the conspiracy, but having manifested his intention of passing his sceptre to the hands of his natural son, because he had no legitimate children, he was poniarded by Cansignorio, his second brother, who desired to rule after him, and who, to enjoy in peace the fruits of his crime, caused to be imprisoned at Peschiera and finally strangled his brother Pietro, who would have been able in his turn to dispute the throne. In spite of this double fratricide Cansignorio was in the main a virtuous prince. He avoided war, and did everything in his power to aggrandize the power and prosperity of Verona. It was the fashion of the times; each one wished to be an Augustus or a Marcus Aurelius, but he always began by smoothing the path to the throne by every possible means, even if they were criminal. The two natural sons of Cansignorio, Bartolomeo and Antonio, were the last fruits borne by this dynasty, which, having its birth in crime, perished in blood. Antonio, in order to rule undisputed, cut the throat of his brother Bartolomeo, was himself dethroned in 1387, and died by poison a year afterwards.

These are the men to whom the Middle Ages in Italy reared altars and erected monuments. In the tombs of the Scaligers have been successively deposited the ashes of nine members of this dynasty of the Atrides. The sarcophagi are enclosed by a very beautiful wrought-iron screen; but the most interesting for those who study history and architecture is that of Can Grande, which dominates the others, and has a truly monumental air. It is a sepulchre built after the funerary style held in honor in upper Italy and which differs sensibly from that which at almost the same time flourished in central Italy and especially in Tuscany. In his masterly study on Donatello, M. Eugene Müntz very clearly and justly characterizes the difference between these two schools; and it is from him that I borrow this definition. He very justly remarks that of the two principal types of funerary monuments obtaining in Italy during the Middle Ages one is the mausoleum planted against the wall, which consists only of a façade more or less richly decorated, and of which Tuscany can claim the invention. Arnolfo di Cambio, a Florentine, created the formula for this kind of monument during the last years of the fourteenth century in the tomb of the Cardinal de Braylus. The other is a mausoleum isolated on all sides and containing under a kind of baldachino a sarcophagus with the couchant figure of the departed, and upon its summit another statue of the same person, most frequently on horseback. This original conception finds its most eloquent expression in the tombs of the Scaligers, but we also meet it in the tombs of the Visconti at Pavia and at Milan, and King Louis XII of France introduced it in the tomb which he caused to be erected at St. Denis.

At the top of the tomb of Cansignorio stands the equestrian figure of Can, whose image is also reproduced on the sarcophagus below. The body of the monument, which affects the pyramidal form, is a mass of niches and pinnacles peopled with statues supported by columns and colonnettes which enhance the exaggerated luxuriance of ornamentation. All the complications known to art have been here united to contribute to the splendor of the work, which, nevertheless, bears the stamp of the primitive Gothic school immeasurably heavy and unhealthy, such as the North invented, and such as we find it in Italy before the genius of local art rejuvenated it and gave it that gay and inspiriting expression which we find in the monuments of a later day.

H. Mereu.

NOTES AND CLIPPINGS

Whistler and the Royal Society. — Mr. Whistler and the Royal Society of British Artists have been fighting, it would appear, about a lion and a butterfly. Mr. Whistler drew a golden lion on the Society's notice board, and appended a butterfly, *more suo*, as his emblem. According to the president of the Society, the design was made in spurious gold leaf, and began to tarnish to a dirty brown, whereupon the Society regilded the lion and effaced the butterfly. The *Times* has been publishing quite a lively correspondence on the subject, but unless Mr. Whistler's pen has lost its cunning, the British Artists will probably find the task of breaking his butterfly a little harder than their president seems to imagine. Of course the sympathies of the self-respecting artist will be with Mr. Whistler. The Society might easily have painted a fresh notice board, and had they sold the old one — with the butterfly on it — they would have made money by the transaction. — *St. James's Budget.*

Elastic Sandstone. — What is known as itacolumite, or elastic sandstone, is found in California, Georgia, and other localities in the United States, and a whole mountain of it, it is stated, exists in Southern Nevada, a short distance east of Death Valley. Itacolumite is nearly always to be met with in regions producing the diamond, and is the reputed matrix of that gem. A piece of this elastic sandstone, about 6 inches long, 1 inch wide and ¼ inch thick, is in the possession of the *Mining and Scientific Press* (San Francisco), which is as flexible as a piece of India-rubber. Another piece, 13 inches long, 2 1-2 inches wide, and 1-3 inch thick, is in the office of the acting chief clerk of the United States War Department, Washington, and said to possess equal flexibility, but being, without doubt, a genuine stone. No practical use has as yet been made of the stone, but it would appear to be useful for elastic foundations for machinery, to prevent vibration, such as are now being introduced in America. At any rate, it is a geological curiosity. — *The Builder.*

TRADE SURVEYS

Advices recently received from quite a number of manufacturing and building centres go to show that there will be very little if any serious trouble with wage-workers during the season. In some quarters fears are expressed, but they are not well-founded. There is a disposition among workmen always to strike if advantages can be obtained, but at the present time there is a feeling among both leaders and the membership that this is not the right time, and that present contracts had better be executed. The only important movement on foot is pushed by the Amalgamated Iron and Steel-workers to shut down the rolling-mills of the country for two months during the summer, as do the glass-workers. The glass industry has adapted itself to this annual suspension, and feels no bad effects. The iron-makers do not wish to suspend work for two months, and if they were in a position to resist they would undoubtedly do so. As it is, their organization ceased to exist a year ago. The workmen will probably have the matter their own way. It is scarcely probable this movement will extend to other industries, although it is well known that in a good many branches of trade workmen would welcome a few weeks suspension during the summer; especially those who are able to afford it. In the building trades there is very little discontent. A careful inquiry throughout the West, where there is the most danger to be apprehended, shows that the arrangements made for the early spring will be continued throughout the season. Further inquiry developes the fact that quite an organized effort will be made next spring to reduce the hours of labor. Many of the leaders among American workmen who have held aloof from this movement, have recently expressed their willingness to give it their sanction. A trial will probably be made. The better industrial conditions in foreign markets have not as yet apparently reduced the outflow of labor, as much of it comes from agricultural regions where ordinary industrial conditions do not influence movements. It is probable that next year fewer emigrants will come from the larger cities and towns of Great Britain and the Continent. There is in general more employment and better pay. The workmen prefer to remain at home where there is work for them, as the fact is becoming more and more apparent to them that the apparent advantages of higher wages in America are off-set largely by the increased cost of living. The dulness which has existed in the industries engaged in iron-making still continues. Manufacturers, jobbers and financiers, railroad managers and all others are anxiously awaiting the word "Go." It may not be given for some time to come. Perhaps never was there as much confidence in future activity as at this time. Reasons for it are not always clear; but, nevertheless, there is a very wide spread and general confidence that the summer will not pass till the mills and factories of the countries are booming with work.

There is a large volume of money seeking employment in all new enterprises, and promoters have been encouraged by investors to push out in a good many new directions. Out of the new enterprises reported in the South, about one-third of them are false alarms. Nevertheless, there is a great activity. A kind of land speculation is in progress there, and it has been stimulated recently by the heavy purchases of lumber manufacturers, iron-makers and coal-miners. Only this week a very large delegation of capitalists are passing through the West Virginia coal regions with a view of deciding upon purchasing several large tracts of land which have been on the market for some time. There are several very important schemes under way for the improvement of inland navigation and the construction of canals which will compete with railroads. Just what shape these schemes will take it is impossible to say. Among the schemes contemplated is the slack-watering of a portion of the Ohio, also of the Allegheny, and the slack-watering of some small streams in the West. There is a plan afoot for the construction of a canal from the Ohio River to Lake Erie, and for an inland canal for several hundred miles along the Atlantic Coast. Besides this, there are important irrigating schemes in the far West, and grand schemes looking to the establishment of manufacturing sites and manufacturing facilities for the Pacific Coast north of San Francisco. These rumors are all encouraging, and show that the moneyed men and the enterprise of the country are only awaiting a favorable opportunity. Meanwhile, reports from builders in the large cities and small towns show that house-building was never more active than it is so far in 1889. Very large contracts have recently been closed for lumber in lumber centres in Arkansas and in the Gulf States. An upward tendency in prices is looked for. No such tendency is manifested in iron. Prices have not been weakened in the iron trade, although pressure in that direction is very strong. The rail-mills are coaxing for business, but the railroad-builders are slow to give it. The anthracite coal trade is considerably broken up, and the buyers are endeavoring to keep clear of the market, hoping that the anxiety of the miners will force them into making a concession. This week Lake navigation opens up, but this will not help trade much. Some two hundred miles of road are to be built this year in the State of Pennsylvania to develop coal, iron and timber lands. Another effort will shortly be made to build the South Pennsylvania Road. Railroad-builders have plans completed for a vast amount of work, but are waiting for more propitious indications. The Interstate Commerce Commission is making excellent headway in the extremely difficult problems placed in their hands. It has a few score decisions to make — enough to tax the strength of intellectual giants.

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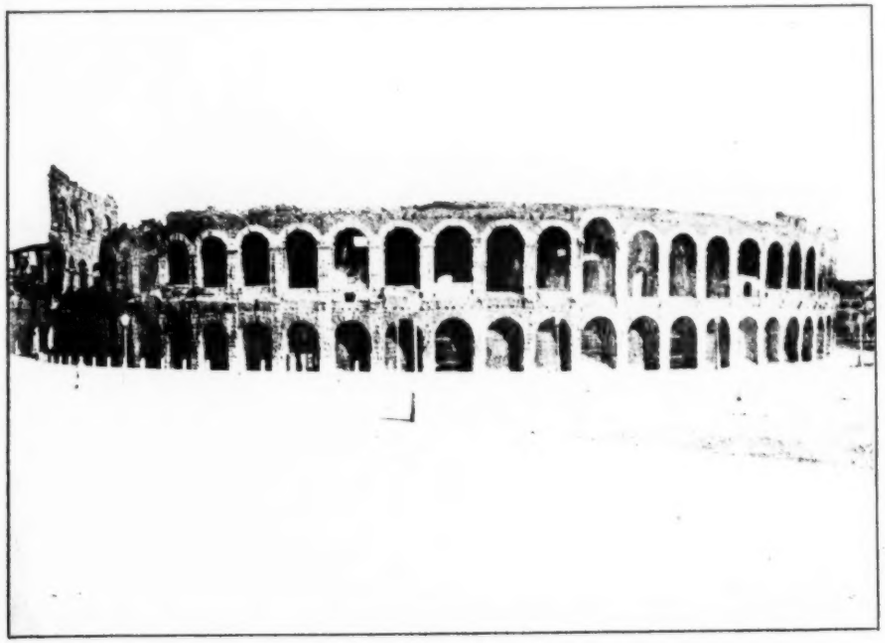

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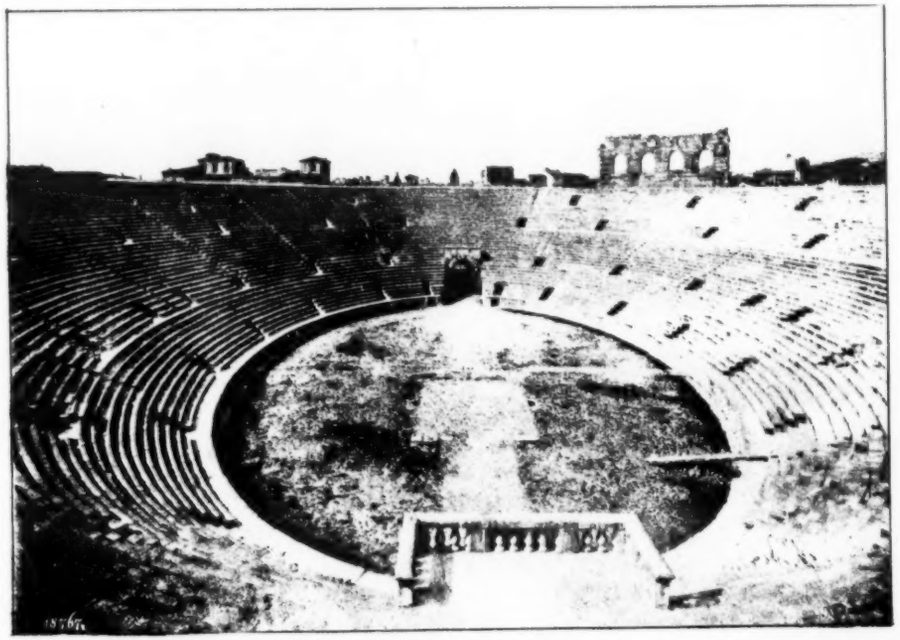

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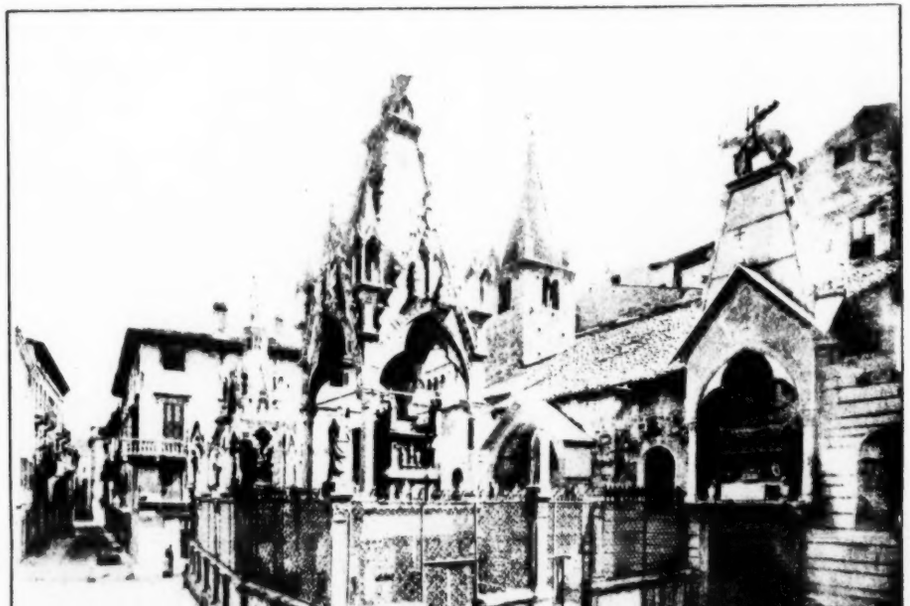

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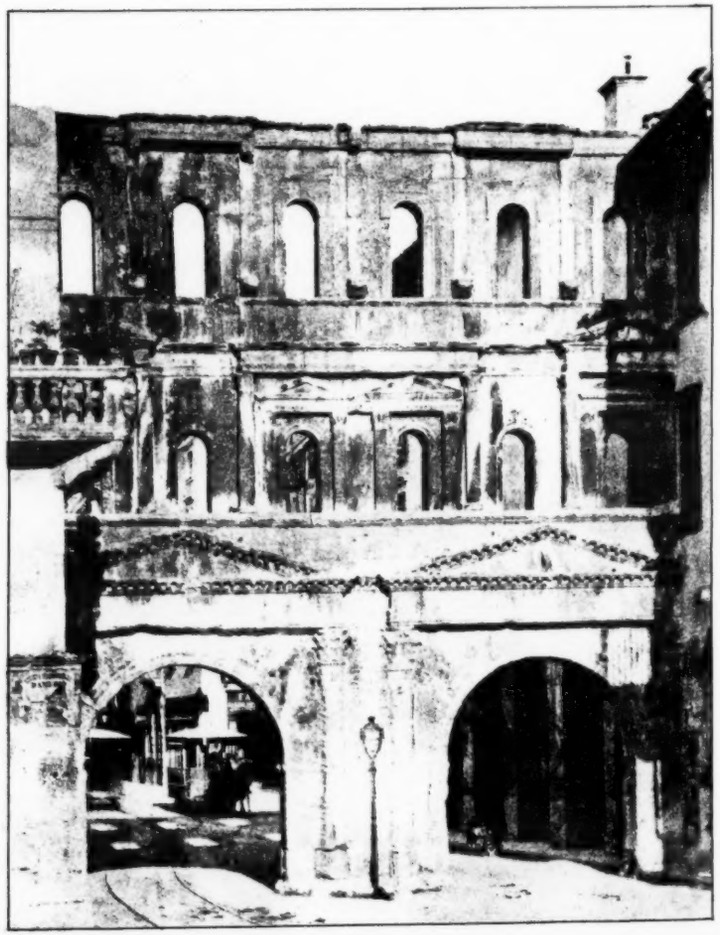

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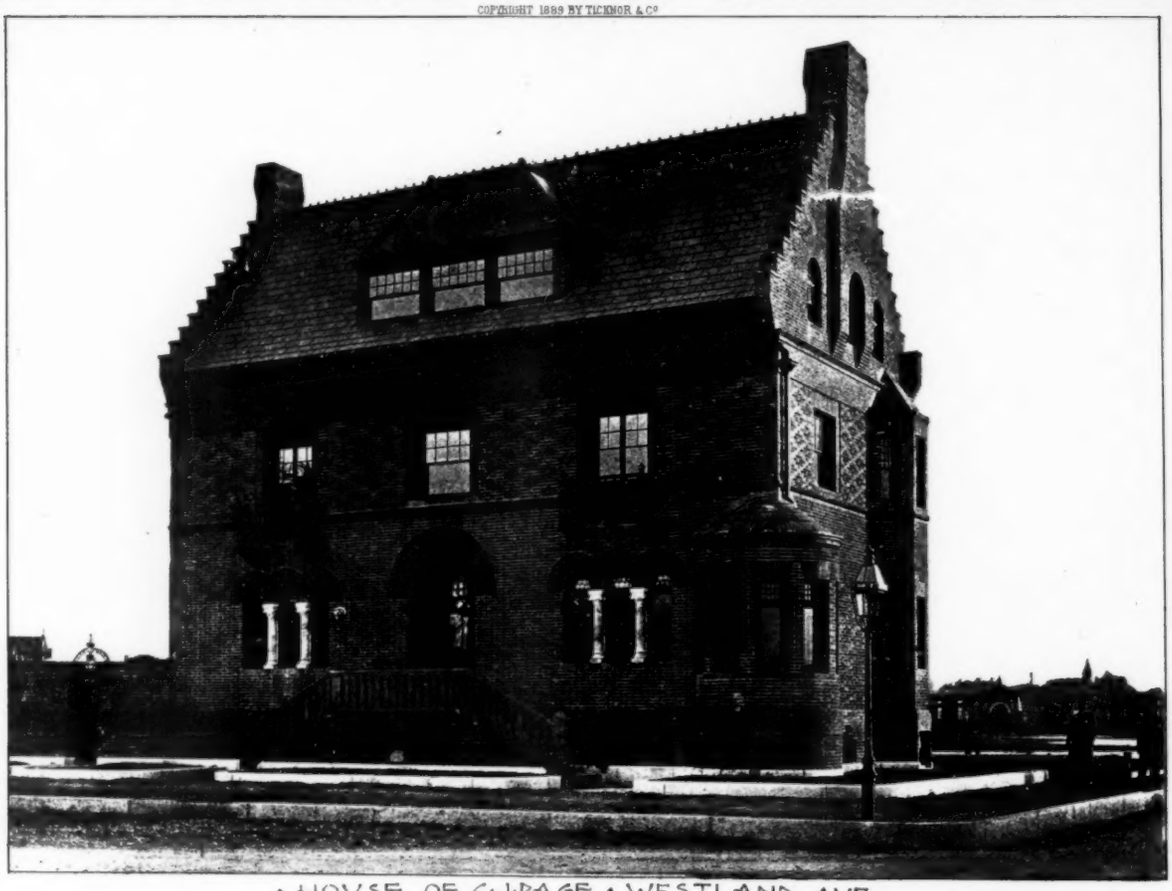

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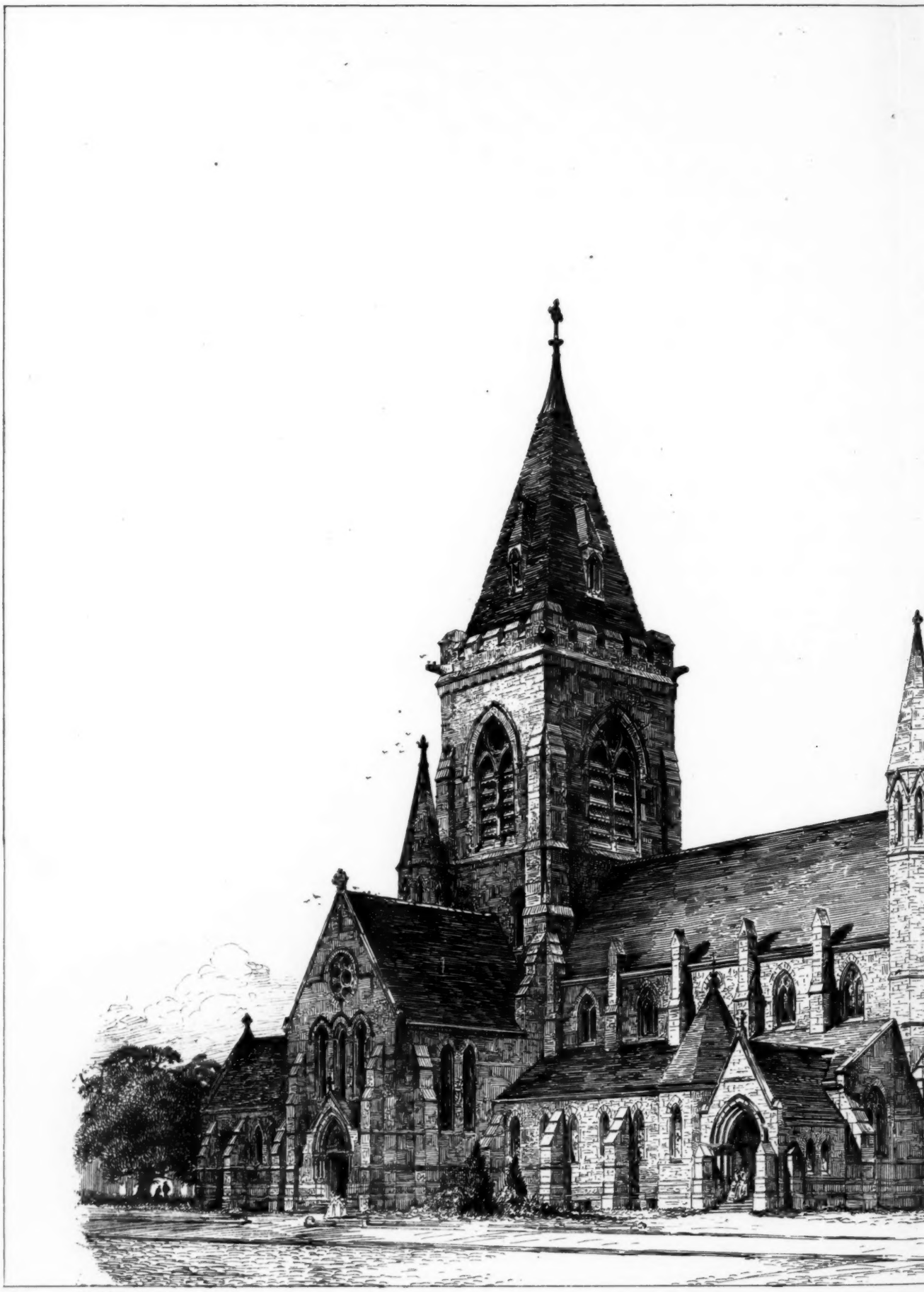

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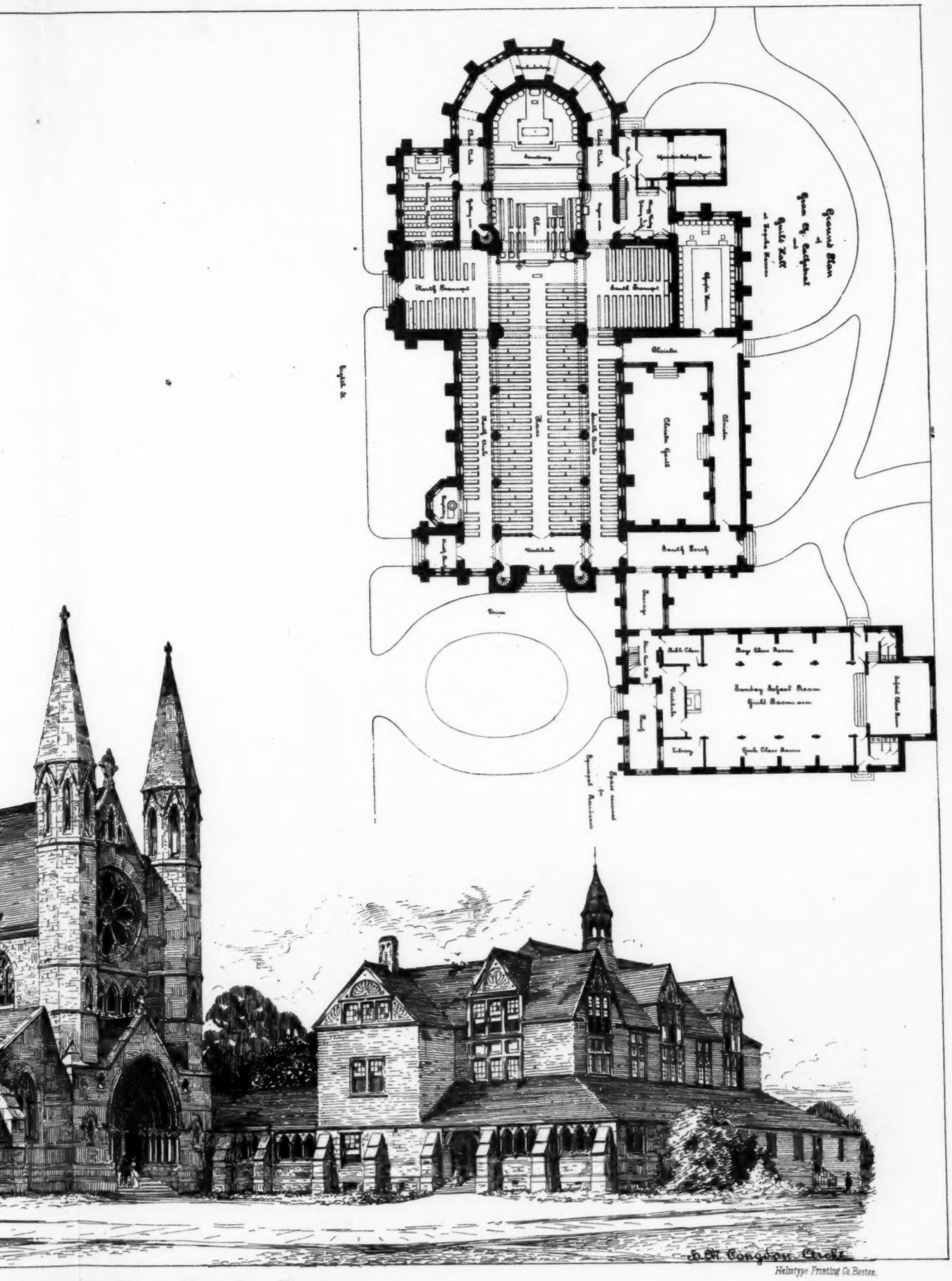
Ground Plan
of
Guild Hall
at Topeka Kansas
Sunday School Room
Guild Room
Boys Class Room
Girls Class Room
Library
Church Court
Church Porch
Vestibule
Chancel
Nave
Baptistry
Open Timber Roof
Entrance Porch
Entrance Gates
Entrance Gates
Entrance Gates